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INTRODUCTION

This document replaces *Children With Moderate and Severe Intellectual Handicaps* (1981) and has been designed to:
- help classroom and special education teachers, paraprofessionals, support staff, and school board personnel develop individual programs for students with moderate and severe intellectual disabilities;
- assist teachers in adapting curriculum and teaching strategies to meet the needs of students with moderate and severe intellectual disabilities;
- assist teachers in evaluating the progress of students and the effectiveness of their programs;
- provide information and direction for curriculum development in subject areas;
- facilitate the process of integrating students with intellectual disabilities into school and community.

Steady progress has been made in the education of exceptional students since the passage of Bill 82, which requires that school boards provide programs for all students, exceptionality notwithstanding. Providing equal educational opportunities through individualized programs and integrating students with learning problems are accepted practices today. Across a range of placement options, a variety of learning environments are provided in which students can develop feelings of acceptance, belonging, and self-worth.

There are problems inherent in attempts to define or describe accurately any group of students. Descriptions can lead to labelling, which in turn obscures individual differences and can lead to misperceptions about students' learning potential. Furthermore, labels can erect barriers between students and their home and school communities. Because, in the past, labelling served to stigmatize intellectually disabled students, it is important to proceed cautiously and with sensitivity when describing these individuals and their needs. Accordingly, in this document, pupils with moderate and severe intellectual disabilities shall be referred to simply as *students*.

Each student is a unique individual who has the potential to learn and develop with the help of a carefully planned and judiciously executed program. Each faces intellectual challenges that result in slower learning of academic, communicative, and social skills.

These students are a highly heterogeneous group with a wide range of learning strengths, needs, and abilities. Some students face, in addition to intellectual handicaps, physical and sensory disabilities that further challenge their ability to learn and to gain control over their environment.

Society must accommodate persons who differ from the norm. Schools have a responsibility to provide students with learning experiences that will prepare them for effective participation in the community, because everyone has the right to a full and rewarding life. For these students, such a life includes opportunities to:
- live as independently as possible, in a home rather than an institution;
- be productive through independent or supported employment, volunteer work, and participation in home life;
- use all community facilities and services;
- interact with others and make friends;
- enrol in continuing education programs, including literacy programs and a wide range of interest courses;
- enjoy leisure activities.

To ensure the eventual full participation of students in the life of the community, schools should endeavour to provide comprehensive programs aimed at long-term goals. Such programs:
- are personalized to suit individual abilities and needs;
- use an experiential, multisensory, concrete approach;
- help each student become as independent as possible;
- provide students with whatever supports they require to learn a skill or to participate in an activity, but recognize the value of phasing out such supports when they are no longer needed;
- develop fully students' communicative, cognitive, personal-life-management, and academic abilities;
- provide regular opportunities for students to interact with their non-disabled peers;
- provide regular opportunities for students to move around in the community;
- allow students to learn and practise skills in the appropriate contexts and environments;
- encourage students to develop leisure skills through personalized assessment and instruction;
- prepare students for transition to other learning, community, and work settings;
- provide students with career-education programs with their peers;
- assist students and their families in the transition to adult community programs following completion of the secondary school program.

Legislative Background

The legislative background relevant to this document includes both the educational guidelines that have been established for exceptional students and the educational goals that have been specified for *all* students.

According to the Education Act, 1986, school boards must provide education programs for all students residing in their jurisdictions.

The act specifies that each Ontario school-age student is entitled to access to publicly supported education in his or her preferred language (English or French), regardless of the student's special needs; students who are exceptional are entitled to appropriate special education programs and services. The act also states that the parents and guardians of exceptional students must have the opportunity to be involved in the identification and placement of these students.

The goals of education apply equally to all students in Ontario schools and consist of helping each student to:

1. develop a responsiveness to the dynamic processes of learning;
2. develop resourcefulness, adaptability, and creativity in learning and living;
3. acquire the basic knowledge and skills needed to comprehend and express ideas through words, numbers, and other symbols;
4. develop physical fitness and good health;
5. gain satisfaction from participating and from sharing the participation of others in various forms of artistic expression;
6. develop a feeling of self-worth;
7. develop an understanding of the role of the individual within the family and the role of the family within society;
8. acquire skills that contribute to self-reliance in solving practical problems in everyday life;
9. develop a sense of personal responsibility in society at the local, national, and international levels;
10. develop esteem for the customs, cultures, and beliefs of a wide variety of societal groups;
11. acquire skills and attitudes that will lead to satisfaction and productivity in the world of work;
12. develop respect for the environment and a commitment to the wise use of resources;
13. develop values related to personal, ethical, or religious beliefs and to the common welfare of society.*

*Ministry of Education, Ontario, *Ontario Schools, Intermediate and Senior Divisions (Grades 7-12/OACS): Program and Diploma Requirements, rev. ed.* (Toronto: Ministry of Education, Ontario, 1989), pp. 3–4.

The Organization of This Document

In Part 1, "The Planning Cycle", a model of program planning is introduced, and the four phases of planning represented in the model are described in detail. The school board's role is discussed in "Support From the School Board". Then suggestions are provided for assessing students' learning needs by determining their levels of development in various areas. A subsequent section, "Changing Inappropriate Behaviour", shows how to use the planning cycle to change inappropriate behaviour that has been uncovered by the assessment process. Sections on selecting and making the most of a learning environment are followed by a section entitled "Accommodating Students in a Regular School", which presents strategies and practices for integrating students in a regular school. Finally, a variety of approaches to program design are discussed.

In Part 2, "Suggestions for Specific Program Areas", the model of program planning is applied to thirteen program areas. For each area, a general overview, a list of elements in the planning cycle, and two case studies (one at the elementary and one at the secondary level) are provided.

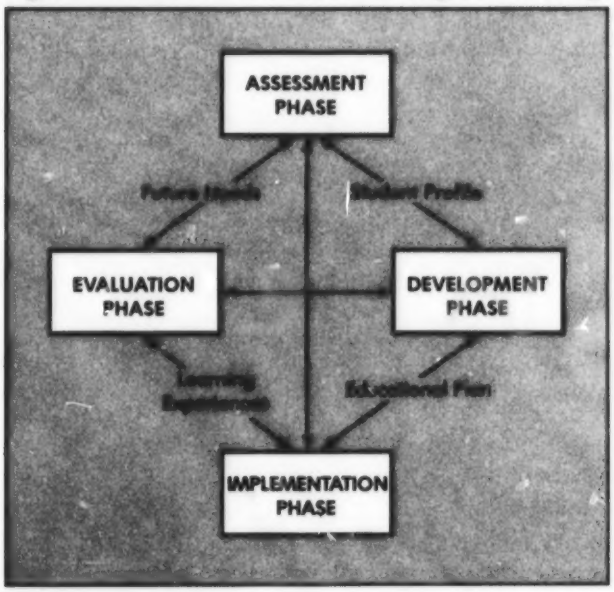
PART 1: THE PLANNING CYCLE

INTRODUCTION

For every student identified as exceptional by an Identification, Placement, and Review Committee (IPRC), the educational staff of the school must undertake a cyclical process of program planning. The components of this planning cycle, and the relationships between them, are illustrated in figure 1.*

During all the phases of the planning cycle, frequent interaction and communication should take place among all the individuals involved in planning the student's program. Co-ordination of efforts is critical and is the responsibility of the principal. By encouraging creativity, co-operation, and flexibility, the principal can ensure that everyone is working to design, implement, and evaluate the most appropriate educational plan.

Figure 1 A Model for School-Level Program Planning



*This model of the planning process is similar to the model of Curriculum Review, Development, and Implementation (CRDI) presented in Ministry of Education, Ontario, *Curriculum Management* (Toronto: Ministry of Education, Ontario, 1988).

The Assessment Phase

Assessment is a continuing, systematic, and purposeful process of collecting information about a student to assist in the making of programming decisions. It should tap the social, emotional, physical, cultural, and intellectual aspects of the student's life in the home, school, and community. Assessment should result in a realistic and positive understanding of the student's abilities and needs, from which a learning profile can be developed.

The principal, the parents, the student, classroom and special education teachers, and support personnel should be involved in the assessment process. A case conference is an efficient means of sharing information. Working as a team, concerned individuals interpret findings and make decisions regarding a student's program and placement.

The assessment process may include, in addition to the activities already mentioned, collecting information about previous educational experiences and arranging a formal educational and/or multidisciplinary assessment.

By means of these activities, educators determine the learning strengths and needs of the student, and a student profile is developed. The profile is a description of the student and his or her learning needs and may include information about:

- health or medical factors;
- specialized resources or equipment required to meet the student's educational needs;
- the need for support personnel;
- parental expectations;
- the suitability of various learning environments.

When learning needs and abilities have been identified and a student profile has been completed, program design can begin. It should be emphasized, however, that assessment does not end at this point; rather, it is a continuing process of review.

The Development Phase

The information collected during the assessment phase is used to design the individual educational plan. An educational plan not only identifies what will be taught but also specifies how goals will be reached.

The educational plan is the major vehicle for both short- and long-term planning. The following are some of the items and issues that should be covered in the educational plan:

- the long- and short-term program goals for the student;
- the type of learning environment that has been chosen for the student;
- strategies for individualizing the student's program;
- the human support services that will be enlisted to support the student's program;
- special equipment and materials that will be used;
- specific instructional techniques (e.g., behaviour management or task analysis) that will be used to meet the goals of the student's program;
- the level of support and program modifications planned for the student in an integrated program;
- specific staff responsibilities for implementing the plan;
- the nature and frequency of assessment of the student's progress and the plan's effectiveness.

Regular communication among parents, teachers, and other professionals is crucial throughout the development phase.

The Implementation Phase

At the implementation phase, learning experiences are provided to the student as specified in the educational plan. But successful implementation requires more than just a good instructional plan; it also requires both physical and social support from the school. At this point, therefore, personnel responsible for the student's education must ensure that modifications such as ramps and washroom facilities are provided and that needs for special equipment and transportation are met. To sensitize the school population to the student's special needs, information should be disseminated through staff in-service sessions and/or communication with parents and other students.

Personnel resources specified in the educational plan – health-care providers, educational assistants, family-support workers – must be hired or assigned as needed. An educational program must be developed or an existing program modified according to the plan conceived in the development phase. School staff must be assigned, and helped to understand, their roles (e.g., program delivery, program evaluation, guidance). Finally, opportunities for rewarding peer interaction must be ensured.

The daily timetable of these students can be similar to that of their non-disabled peers. As a general rule, every student can take part in the major areas of study – communication arts, social sciences, mathematics, physical education, dramatic arts, and visual arts. Students with special needs may require, in addition, involvement in non-academic areas, such as self-care, physical therapy, community access, and work experience.

Although these students may be unable to participate in some activities independently and in the same way as other students, this does not necessarily mean that they should be excluded entirely from these activities or subject areas. In many cases they may be able to participate if programs are modified for them or if they receive the assistance of a peer tutor or a teacher's assistant. The goal is to involve students in regular activities in ways that are relevant to their individual needs and that provide them with enjoyment and skill development.

Consideration should also be given to the provision of out-of-school learning experiences to facilitate students' eventual transition from school to life in the community. On-the-job experience enhances the skills that students learn in the classroom, with the result that students learn to function as independently as possible, both in the community and on the job. It is also important that students develop recreational skills and interests, as well as the social skills required to use facilities such as restaurants, banks, and libraries. These skills can be taught outside the school, through field trips. Finally, learning housekeeping and basic maintenance skills in natural home environments will enable many students to manage in a supported or independent living arrangement.

The Evaluation Phase

Evaluation consists of both continual and periodic assessment procedures. It involves measuring student progress through observation and through other, more formal measures of achievement. The evaluation phase includes program evaluation as well as evaluation of student achievement.

The following are some factors to consider when evaluating the student's achievement and the program's effectiveness:

- the student's success in completing the learning objectives outlined in the educational plan;
- the student's areas of strength and weakness, not only in the academic realm but also in social, physical, intellectual, medical, and vocational areas;
- the program's success in meeting the expectations of the parents and the student;
- the plan's success in meeting the needs identified in the student profile;
- the appropriateness of the student's placement;
- the helpfulness of the modifications made to the learning environment;
- the effectiveness of the teaching strategies in meeting the student's needs;
- the adequacy of resource and personnel support;
- the need for further assessment of student and program.

Communication with parents and other professionals is an important part of evaluation. It may occur through interviews, conferences, progress reports, telephone conversations, classroom visits, and written correspondence. This collaboration results in comprehensive accounts of student progress, interests, strengths, and needs and assists in answering the question "Are the instructional programs effective?"

The information and concerns that arise from the evaluation phase may indicate further assessment needs. In that case, the assessment component and the entire planning cycle will be repeated.

SUPPORT FROM THE SCHOOL BOARD

Successful program planning at the school and classroom levels requires clearly defined and supportive school board policies and practices. In order to ensure that school board policy is as supportive as possible of schools' efforts, school boards should ask themselves the following questions:

- Does the budget provide for school needs for transportation, staff, equipment, supplies, and buildings?
- Should services be purchased to provide for student needs?
- Have clear guidelines been designed and implemented to assist schools in providing services for students?
- Is there a procedure for regularly reviewing and evaluating school-board-level policies and procedures (e.g., regarding staffing, integration)?
- What is the role of the Special Services Department in the planning and implementation of programs to meet the curriculum needs of students?
- What is the impact of decisions made by the board's Identification, Placement, and Review Committee (IPRC) on student placement and on programming?
- What provisions have been made for professional development and in-service training?

ASSESSING LEARNING NEEDS

Assessing a student's learning needs is tantamount to assessing his or her development in several areas; in each area, learning needs begin at the developmental point the student has reached. In the following sections, some areas of development are described. The descriptions are intended as overviews and are not comprehensive. For each area some questions are provided that may assist teachers in assessing students' levels of development and, in the process, their learning needs.

Communication and Language Development

Communication is interactive; it involves the sending and receiving of messages between people. Communication occurs not only through speech, but also through gazing, facial expressions, vocalizations, gestures, and other body language. It is important that the teacher observe non-speaking students closely in order to determine how, what, and why they are communicating. Activities should be designed to encourage students to initiate communication and interaction with others. For some students, an augmentative communication system, such as sign language or a picture board, may be beneficial. For others, programs can be designed to develop facility in the use of spoken language. The goal for all students is the ability to communicate intentionally their needs, feelings, and interests, in a form that can be understood by others, and to understand and respond, in turn, to other people's messages.

The following are examples of the types of questions that should be asked in an assessment of a student's ability to communicate.

Early Communication Skills: Mode How does the student signal needs, feelings, and interests? How does the student interact with other persons in the environment? Does the student use vocalizations, gestures, movement, gazing, and so on to communicate? Is the student consistent in the use of certain signals for specific purposes? Does the student participate in imitative or turn-taking activities, using gestures, facial expressions, or sounds?

Early Communication Skills: Function Does the student initiate communication for personal or social reasons? When, why, and with whom does the student communicate?

Early Communication Skills: Content Does the student engage in interactive communication on a topic of common interest?

Receptive/Expressive Language Skills How does the student respond to familiar sounds, events, and voices in the environment? Does the student respond to his or her own name? Can the student ask and respond appropriately to simple questions? Can the student recall and sequence events, stories, alphabet symbols, numerals, and personal information? Does the student use single words, two- or three-word phrases, or sentences?

Interactive Skills Can the student engage in conversation with others on a shared topic of interest? Can the student take turns and listen while others are communicating?

Cognitive Development

Cognitive development begins with sensory learning. In the course of exploring the world with their senses, young children interact with and make sense of their environment. As they acquire object representation and object permanence, they develop the ability to acquire, interpret, organize, retrieve, and use knowledge and concepts. For some students, using their senses in a meaningful way will be a long-term cognitive goal. For others, being able to classify, to make decisions, or to read, write, and compute is a realistic expectation.

The following are some of the questions that should be asked in an assessment of a student's cognitive skills.

Sensory Awareness Is the student aware of sensory stimuli? How does the student search for and manipulate sensory stimuli?

Perceptual Skills Is the student able to discriminate, sort, and match stimuli? Is the student able to copy and reproduce patterns, symbols, and numerals?

Attending Skills Is the student able to track stimuli? Is the student able to anticipate and recall routines?

Basic Thinking Skills Does the student search for and find objects? Is the student able to group, match, and categorize objects?

Memory Skills How does the student demonstrate a memory of familiar people, objects, or events? Does the student recall directions or symbols and apply them?

Concept Development Is the student aware of his or her body parts and their functions? Can the student classify by shape, size, sound, and colour? What are the student's number skills?

Problem-Solving Skills Is the student able to predict, analyse, and interpret events and communicate the results of these processes? How well does the student generalize or apply his or her knowledge to real-life situations?

Physical Development

Body movement is an important means by which students respond to, explore, and manipulate things in their environment. Physical development includes achievements in head control, posture, muscle development, co-ordination, and locomotor ability. As they grow, students learn to manoeuvre in many ways in a variety of environments. Proper assessment and programming provide physically disabled students with opportunities to increase their range of movement, their ability to care for themselves, and, as a result, their independence.

The following are some of the questions that should be asked in an assessment of a student's physical skills.

Movement What is the student's range of motion? What is the student's mobility level? Does the student move at varying speeds? How does the student move various body parts? How does the student manoeuvre in space? How does the student move on various terrains?

Body Awareness Does the student demonstrate a preference for one side of the body? Has the student developed balance and rhythm?

Manipulative Skills How does the student manipulate and use objects in the environment? How does the student use fine-motor skills in everyday tasks such as eating, dressing, grooming, and writing?

Social and Emotional Development

A sense of personal well-being is important to students' overall psychological, physical, and social development. Students require opportunities to develop a positive self-concept by interacting with others in a positive way and by forming friendships, both of which require appropriate social behaviours. Specific instruction in non-verbal social nuances such as eye contact, posture, facial expression, and other body language may be necessary. The ability to express emotions in ways appropriate to the situation is crucial. Proficiency in self-care and hygiene is also important to the development of a sense of self-worth and responsibility.

The following are some of the questions that should be asked in an assessment of a student's social and emotional skills.

Self-concept Does the student demonstrate self-confidence? Does the student take pride in his or her accomplishments? Does he or she accept criticism?

Emotions How does the student demonstrate his or her feelings? How does the student deal with emotions such as anger, frustration, and fear?

Interpersonal Relationships Does the student acknowledge others in the environment? How does the student interact with other people in social situations? Is he or she tolerant of others? Can the student interpret non-verbal signals from other people? Does the student participate in group activities? Does he or she maintain friendships? Does the student maintain an appropriate physical distance from others?

Responsibility Does the student accept and complete tasks? Does the student manage his or her free time? Does he or she follow rules and adhere to limits placed on activities?

CHANGING INAPPROPRIATE BEHAVIOUR

Occasionally the assessment process may uncover behaviours that require supportive intervention by the teacher. Like any behaviour change (including academic learning) that teachers want to effect, change in a problem behaviour requires use of the planning cycle.

First, a description of the student's inappropriate behaviour should be formulated and put in writing. Pertinent details related to the behaviour should be observed and recorded, and all the gathered information should be analysed. (In some cases a case conference may be necessary.) The analysis should generate hypotheses about the causes of the student's inappropriate behaviour.

A plan to change the behaviour, including long-term and short-term goals, should then be formulated. To be useful, short-term goals should be very specific: exactly what is expected of the student, when, and where.

Before the plan is implemented, teachers should decide at what intervals its evaluation will occur. If evaluation reveals that the problem has not been resolved, the planning cycle should begin again. If, after several repetitions of the cycle, there has been no appreciable change in the student's behaviour, he or she should be referred to other services, according to procedures established by the local board.

PLACEMENT OPTIONS

School boards are encouraged to offer a range of placement options for students who have been identified as exceptional by an Identification, Placement, and Review Committee (IPRC).* Working in consultation with the parents, the IPRC makes its placement decision on the basis of the student's specific learning needs.

Following are descriptions of the placement options most commonly recommended. In each case special education and interdisciplinary staff assist in assessment of individual needs and strengths, development of learning objectives, modification of the curriculum, and identification of the supports and resources required. These placement options are not totally discrete and should be viewed as existing on a continuum. Furthermore, it is possible for a student to experience a range of placement options as circumstances, needs, and abilities change.

Regular Class With Special Education Support

In this placement students with special needs are provided with opportunities to interact over a long period with the same group of peers. The student thus has opportunities to develop enduring relationships.

Educational programming is individualized to meet the unique learning needs of these students. The responsibility for developing and implementing individual programs belongs to the regular-classroom teacher, although support should be provided by the principal and resource personnel. Decisions are made about the suitability of large- and small-group teaching, and individualized instruction is provided as required in the regular class or individually, with the child withdrawn from the class temporarily. Opportunities for peer tutoring and assistance occur naturally in the regular classroom.

*Ontario Regulation 554/81 (Special Education Placement and Review Committees and Appeals), February 1986.

Special Education Class With Opportunities for Integration

In this placement option, students with special needs meet as a small class to learn basic skills. The special education teacher takes the primary responsibility for developing individual program plans and co-ordinating necessary support services. Integration into the regular classroom for the study of specific subject areas should be planned in such a way that it capitalizes on the student's learning strengths, provides opportunities for interaction with same-age peers, and provides supports as needed. The regular-class teacher, the special education teacher, and the principal should meet regularly to devise modifications of the regular curriculum. Peer tutoring can occur in the regular class or in the special class, but it generally requires planning and facilitation by the teacher.

Special School

In this placement option, small-group instruction is the norm. Individual programs are planned within a curriculum framework designed for special students. Special arrangements can be made to ensure that integration into regular school and community settings takes place.

MAKING THE MOST OF THE LEARNING ENVIRONMENT

Providing Access

If students are to become fully participating members of the school community, they must have access to as much of the school as possible. Learning environments should be physically accessible to all students, and provisions should be made to meet students' particular physical needs. This requirement will present challenges in many older schools, and readers are referred to the ministry publication *Designing for the Physically Disabled* (1986). Where changes to the physical environment of a school are necessary, they should be carried out creatively, always bearing in mind the need to promote positive interaction among all members of the student body. Such modifications should be depicted as reflecting positive community values and as benefiting all members of the community. (Ramps and washroom modifications make the school accessible to all community members, not just to students with special needs.)

Retaining Features of Regular Programming

Although students require individualized programs and possibly specialized equipment and materials, special classes should reflect the general set-up of other classes in the school as much as possible. For example, an emphasis on active learning is as appropriate for special as for regular elementary students, facilitating the provision of a personalized, experiential program. The usual practices of providing a range of concrete materials to manipulate and planning regular community excursions are particularly important in meeting the needs of these students. At the secondary level, more sophisticated regular activities, such as community involvement, work experience, and co-operative education, may be appropriate.

Providing Materials and Equipment

Students will sometimes require specialized equipment, such as wheelchairs, walkers, and modified tricycles, to help them use the school environment as independently as possible. In addition, students should be positioned in the classroom in a way that ensures appropriate instruction and promotes good physical development and posture. Chairs and desks should be the right size and provide sufficient support.

Learning materials (e.g., reading materials, computer software and hardware) should be geared to students' individual needs and chronological ages. Where possible, the general equipment used in the school should also be modified to accommodate students' special needs. If this is not possible, the school should investigate the use of specialized equipment.

Because an important goal in the education of students is to stress their similarities with their peers, it is important that materials be appropriate and suitable to their chronological ages. For example, a sixteen-year-old student who needs to improve fine-motor or manipulative skills should practise, not putting pegs in holes, but using a key lock, operating a vending machine, or stapling papers. A student in the Intermediate or Senior Division who is learning to recognize his or her written name could be required to check it off on the class roster as an attendance check. As well, all students should be encouraged, with their parents' co-operation, to dress in a way that reflects the norms of their age groups.

Encouraging Interaction With Peers

In order to ensure that students get the most from their opportunities to interact and socialize, they should be involved in regular school routines and special events as much as possible. This includes arriving and departing from school at the same time as other students, attending general assemblies, and using the regular lunch facilities. Common recess and break times provide further opportunities for social interaction and for both supervised and unsupervised leisure and play.

ACCOMMODATING STUDENTS IN A REGULAR SCHOOL

Placement in a regular school and class is an option provided for some exceptional students, in instances when it is felt that a student's learning needs can be appropriately met in a class of non-disabled peers.

Like all placement options, placement of an exceptional pupil in a regular class depends for its success on good planning.

Teaching Strategies

Following are descriptions of some teaching strategies that have proven successful for integrated students.

Peer Tutoring

Peer tutoring is an effective way of promoting interaction between exceptional and non-exceptional students. Students who are not disabled develop positive attitudes towards their exceptional peers as they spend more time with them. These positive attitudes in turn lead to greater self-confidence and a sense of belonging on the part of the exceptional student.

Peer tutoring programs can range from an informal helping or "buddy" arrangement to a more structured and closely monitored system. It is important that the non-disabled student be trained to be an effective tutor. Peer tutors may do anything from teaching academic skills to providing assistance in activities of daily living (such as getting around at school).

In addition to tutoring, students in the school may function in the role of helper, or they may become involved in co-operative learning activities (see p. 17). Both of these activities generally allow students to interact in a small group, often under the direction of the special-class teacher.

Team Teaching

Where special classes are located in a regular school, the teachers of those classes often work co-operatively with their colleagues in the same division. In some instances this may involve team teaching. For example, regular-class and special-class teachers may bring their students together to participate in a joint activity (e.g., a class in

physical education, art, or music). In this way teachers not only share their respective strengths and expertise but also promote interaction among their students.

Co-operative Learning

Co-operative learning is an excellent way of including students with developmental disabilities in group activities. Co-operative learning is an instructional or play situation in which students perceive that they can achieve their desired goal only if they work together and co-operate as a group. Each individual in the group is seen as contributing to achievement of the desired goal. Occasions occur naturally in which students can help each other to accomplish a task. For example, Grade 1 children are involved in co-operative learning when they work together to create a collage, entitled "Our Pets", out of photographs contributed by all of the pupils in the group. Similarly, secondary school students are involved in a co-operative learning experience when they sell cassette tapes to raise money to take a four-day trip; in this case all of the students in the group contribute to the success of the trip by selling as many tapes as possible.

Other Helpful Practices

In addition to the teaching strategies, the following practices will help students integrate into regular school programs.

Positioning of Classrooms and Individuals

Learning environments for students with special needs should be located in settings that are age-appropriate and that allow these students to be visible, to interact with others, and to participate as part of the school community. Where students are placed in special classes, these classes should be situated within their appropriate divisions; for example, Primary classes should be situated within the Primary Division. At the secondary level, it is suggested that special classes be situated close to other "homeroom" programs. Where students are integrated into regular classes, their placement should be with children as close to their chronological ages as possible.

The location of individuals in the classroom should reflect the important goal of providing for their maximum interaction and involvement with their peers and should allow them to move from one area or activity to another. At times it may be necessary to consider special positioning within the class to accommodate special learning needs (e.g., a vision or hearing impairment).

Co-operative Planning

Open communication should exist between regular and special educators. It is hoped that teachers will pool their expertise, time, and resources in an effort to meet the needs of exceptional students. The joint planning of learning objectives, activities, and strategies will allow for consistency in program implementation.

Support for Regular Teachers

Support should be provided to regular classroom teachers to assist them in modifying their programs to meet the individual needs of integrated students. This support should include guidance from consulting staff, as well as classroom support (e.g., teaching assistant, parent volunteer, peer tutor) if necessary. Arrangements should be made to provide special materials and resources as required.

Education of Staff and Students

In-service training should be provided to both staff and students to develop an understanding of the special needs of these students.

Clarification of Expectations

A clear system of evaluation should be in place whenever students are integrated into regular subject areas and the curriculum is modified to meet their needs. Students should always have a good understanding of what is expected of them and how they will be evaluated, so that there is no ambiguity about where they stand.

APPROACHES TO PROGRAM DESIGN

The ultimate goal of good educational programming is to help students develop to their fullest potential. This goal is most likely to be reached if students feel that they belong and are accepted. Under these circumstances they can develop the confidence they need to attempt new behaviour. Attempts lead to mastery, and mastery in turn grants students a measure of control over their environment and over their own lives.

Following are descriptions of several approaches to program design. Whichever is chosen should be implemented in an atmosphere of acceptance and respect.

Integrative Programming

Integrative programming is a holistic approach whose users recognize both the importance of educating the whole child and the interrelated nature of learning. Aware that learning occurs across program and curricular areas rather than in discrete units, teachers who favour this approach are sensitive to the opportunities available to develop communication and social skills across all curriculum areas.

This approach can involve a range of programming options, from personalized instruction to integrated group activities with same-age peers. But it must always include experiences that will ensure the generalization of learning to real-life situations.

The philosophy of integrative programming underlies the recommendations made in this document. It is a holistic approach that recognizes the personalized nature of learning. After individual assessment, the teacher, in consultation with parents, decides on specific learning objectives for each student. Further decisions are made about the environment in which the learning will occur and about the strategies for instruction and evaluation, which should take into account individual needs and abilities, preferences, personalities, and learning styles. By these means students' immediate needs are addressed, as are their long-term goals of developing the abilities and relationships necessary to participate fully and independently in school, home, and community settings.

In this approach skills are taught in context, in ways that are meaningful to students, and through active learning (i.e., through first-hand experience). Care should be taken to ensure that the learning experiences are appropriate to students' chronological ages and reflect the culture and norms of the school, home, and community.

Consideration should be given to preparing students for transition from one setting to another. Skills needed in subsequent learning and living environments should be systematically taught. For example, students in a preschool program will benefit from activities that prepare them for participation in an elementary school program (e.g., participating in brief small-group activities, choosing a toy to play with independently). Older students need to be directly taught the skills they will need to participate in home, community, and work settings.

Once learning objectives have been chosen, the teacher should plan learning opportunities that are relevant and meaningful for the individual student. Many of these learning opportunities will be available at school, whereas others can be offered at home or in the community. Teachers are encouraged to look for opportunities for their students throughout the school, the home, and the community. For example, a trip to the school library can be an opportunity to develop communication, social-interaction, decision-making, and reading skills.

The learning opportunities and resources available in the school, home, and community must be offered in a co-ordinated way if the student is to achieve an appropriate level of independence. A sampling of the related learning opportunities and/or resources available to students in the school, home, and community is outlined in figure 2.

Figure 2 Related Learning Opportunities/Resources in the School, Home, and Community

Developmental Area	School	Home	Community
Independent-living skills	• Family studies	• Cooking	• Shopping
Personal life management	• Money management skills • Transportation/ safety skills	• Budgeting • Getting around the neighbourhood	• Purchasing goods and services • Using bus services
Employment skills	• Co-operative education	• Household duties/ responsibilities	• Part-time job
Leisure	• Extracurricular activities • Plays/concerts	• Hobbies • Reading	• Recreation centres • Cubs/Brownies • Public library
Physical well-being	• Intramural sports	• Physical fitness activities	• Health clubs • Team sports
Music	• Choirs	• Leisure listening	• Church choir
Play	• Peer interactions at recess/free time	• Family relationships/ interactions	• Developing friendships

Other Approaches

A variety of other approaches are also used in the design of programs for students. Teachers may wish to incorporate these practices, which have useful features for specific learning and skill development, into their programming.

The Functional or Environmental Approach

In the functional or environmental approach, present and future environments (home, educational, leisure, and work settings) are identified. Programs are developed that focus on teaching age-appropriate skills in natural environments. Features of this approach are easily incorporated into the integrative approach. For example, for a student who is learning to make lunch independently, classroom activities might include learning Canada's food groups, planning a menu, and writing a grocery list. Community-based activities could include a trip to the supermarket to purchase the items, and at home lunch could be prepared for the next day. In this way, communicative, social, physical, and cognitive skills are combined in a cluster of functionally related learning experiences.

The Developmental Approach

The developmental approach is based on normal child development and therefore on the assumption that instructional objectives will be ordered in a predictable sequence. The goal is to help students move through their developmental milestones, to the highest level of skill they can attain. A student's position relative to peers can be identified through assessment of his or her positions in the various developmental sequences. Caution should be exercised when applying this approach to exceptional students because they may reach developmental milestones by atypical routes.

The Behavioural Approach

In the behavioural approach, skills, including social skills, are taught through analysis, strategies, and reinforcement. Although intensive instruction of this type may be appropriate at times, it must be meaningful and used in the context of the student's total program.

The strategy of breaking a skill into its component parts is known as *task analysis*. Having learned the component parts of a task, pupils can master it in sequential steps. Tasks in any subject area can be analysed and taught in this way. The analysis of tasks should be tailored to the abilities and needs of individual students.

PART 2: SUGGESTIONS FOR SPECIFIC PROGRAM AREAS

INTRODUCTION

This part of the document offers suggestions for putting into practice the principles outlined in Part 1. The material is organized by program area. For any given area, only a sampling of ideas is presented. Moreover, not all possible program areas are discussed. Teachers are encouraged to explore other program areas in which students might be able to participate meaningfully.

The material for each program area is organized into three main parts:

a) *Overview.* This section provides a brief description of the focus of the program area and the area's relevance to student needs.

b) *The Planning Cycle.* This section summarizes, for the particular program area, educators' responsibilities at the assessment-development and implementation-evaluation phases of the planning cycle. Publications that teachers can refer to in developing or implementing programs are listed.

c) *Case Studies.* Two case studies – one of an elementary-level and one of a secondary-level student – are given for each program area. The programs described are designed to suit the needs, interests, abilities, and personalities of these particular students in their particular educational settings. Thus, without modification they are unlikely to be appropriate for a different student in a different setting. The primary purpose of the case studies is to demonstrate good planning.

Each case study includes a student profile, a description of the student's learning environment, a list of expected learning outcomes, and a student program based on integrative programming principles.

Information in the "Student Profile" subsection is the result of a thorough assessment and includes such characteristics as age, personality traits, skill level, interests, special needs, and specific, program-related needs.

"Learning Environment" describes the school placement that has been selected for the student, as well as any required support systems, facility modifications, and home and community involvement.

The expectations listed in "Expected Learning Outcomes" are established in response to such factors as the student's level of independence; social, physical, communicative, cognitive, and self-help needs; and needs for environmental adaptations.

The program outlined in "Student Program" takes a holistic approach; it is designed to provide meaningful, integrative learning experiences that are age-appropriate, functional, and relevant to the developmental needs of the student. Although the focus is on a specific subject, the learning opportunities have been selected and organized to develop social, communicative, cognitive, personal-life-management, and physical skills.

CAREER PLANNING/ WORK EDUCATION

Overview

The exploration of possible career choices is a very important aspect of the education of all students. These students, however, whose learning rate is slower and whose ability to make generalizations less developed than that of other students, need more opportunities to practise work-related skills in the classroom and the community.

In the elementary years, good work habits and attitudes are developed through an emphasis on punctuality and the satisfactory completion of tasks. Participation in regular classroom routines (e.g., watering plants, feeding pets, cleaning chalkboards) can help students to develop positive and responsible work habits. Stories about people in a variety of careers form part of the environmental studies curriculum.

Secondary school students begin to explore career options more systematically in consultation with the guidance department. Their programs may include co-operative education and work experience. They may also choose to develop skills and knowledge in business studies, technological studies, or the arts, with a view to possible future careers.

Teenage students should be provided with work-related experiences in various kinds of environments, both in school and in the community. Such experiences help to both pinpoint and develop students' vocational strengths. Their reading, writing, oral language, and mathematics skills can then be developed to suit the needs of the community and the workplace.

Students also need to develop the social skills required for successful job placement. The ability to interact appropriately with peers, fellow workers, and employers in a variety of settings starts with the social skills learned in the classroom and the community.

Students should be helped to explore a variety of options that may lead to meaningful employment in the community on graduation. Careers discussed can include semiskilled and unskilled jobs, as well as jobs with high academic requirements. Teachers should be responsive to students' individual preferences and strengths.

As a student approaches school-leaving age, co-operation among the school, the student's family, community agencies, and potential employers is essential to the student's smooth transition to the work environment. Options such as work in a regular workplace, supported work placements, and sheltered placements should be explored.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- identify students' career preferences and interests through observations and conversation;
- identify students' job-related social, physical, and cognitive abilities;
- involve parents in their children's long-range career planning;
- work closely with community agencies and employers to survey job possibilities and to inform employers of students' potential;
- design realistic goals for students based on individual capabilities and employer expectations.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:

- begin career education early, targeting skills that will be useful in a variety of work settings (e.g., punctuality, productivity, initiative, persistence, concentration);
- include specific training in job-related interpersonal skills;
- provide motivating and meaningful work-related experiences at school;
- have students test out school-based learning in community settings, with varying personnel, conditions, and expectations;
- provide students with opportunities to acquire experience in various kinds of appropriate jobs;
- allow for interaction and training with non-disabled peers where possible;
- provide special equipment and support personnel for workplaces where students would otherwise be unable to participate;

- increase the percentage of time that is spent in natural work settings as students approach the school-leaving age;
- monitor and assess student progress carefully, evaluating the contributions of school personnel, employers, and parents as well as the achievement of the students;
- develop, for each student, a portfolio of work placements and evaluations to be passed on to potential employers;
- provide opportunities for students to participate in co-operative education programs and school-to-work transition programs.

Resources

Ontario. Ministry of Education. *Career Week Is Every Week.* Toronto: Ministry of Education, Ontario, 1988.

_____. *Co-operative Education: Policies and Procedures for Ontario Secondary Schools.* Toronto: Ministry of Education, Ontario, 1989.

_____. *Guidance, Intermediate and Senior Divisions.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1984.

_____. *One Step at a Time: Educational and Career Explorations, Intermediate Division (Grades 7 and 8).* Support Document. Toronto: Ministry of Education, Ontario, 1984.

_____. *Personal Life Management, Intermediate and Senior Divisions.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1985.

Ontario. Ministry of Education and Ministry of Labour. *Bridges to Employment for Students With Disabilities: A Resource Guide for School-to-Work Transition (SWT) Programs.* Toronto: Ministry of Education, Ontario, 1988.

Wehman, Paul, and McLaughlin, Phillip J. *Vocational Curriculum for Developmentally Disabled Persons.* Baltimore: University Park, 1980.

Case Study – Elementary Level

Student Profile Maria is a twelve-year-old with autistic tendencies. She is independent in basic self-care skills, such as feeding, toileting, and dressing. She has no spoken language; communicates her needs by gesture, physical touch, and sounds; and understands simple two- to three-word sentences. Maria likes to listen to music with headphones and to do fine-motor activities such as puzzles and Lego. She sometimes engages in rocking and head banging. Her parents wish to begin long-range vocational planning for her.

Learning Environment Maria attends a special education class in a senior public school. In order to remain on task, she requires individualized attention from the teacher or an educational assistant.

Expected Learning Outcomes Maria is expected to:
- assist the school office staff in short, meaningful tasks requiring fine-motor dexterity (e.g., stapling notices, stuffing envelopes);
- complete tasks in the workshops at school (e.g., sanding, using a screwdriver) and, by the end of the school year, perform these tasks independently for periods of ten minutes at a time.

Student Program Maria is being provided with opportunities to:
- increase her on-task behaviour by completing short tasks at intervals during the day (the length and complexity of the tasks is gradually increased, and concrete reinforcements such as listening to music are gradually replaced by more abstract reinforcements such as verbal praise);
- develop her communication gestures so that she can make herself understood at home, at school, and in the community;
- co-operate with another person in such activities as collating three papers and stapling or folding them, stuffing envelopes, and putting stamps on envelopes;
- develop a better sense of one-to-one correspondence by placing one stamp on an envelope, one paper in an envelope, and so on.

Case Study – Secondary Level

Student Profile Jean-Marc is a sociable nineteen-year-old with Down syndrome. He speaks in short sentences and reads about seventy words in context. He counts by rote to 100 and performs numerical operations to 10. He can purchase items that cost up to $1.00, but he cannot make change. He tells time to the hour and half-hour. He is very tidy and likes to clean the classroom. He also enjoys preparing food and has expressed interest in working as a busboy or assistant in a restaurant. He has difficulty in remaining on task.

Learning Environment Jean-Marc attends a small special education centre that emphasizes life skills and the transition from school to adult life. Every day at lunch time he assists with such tasks as serving food and cleaning tables and floors. He is also being provided with work-experience trials in local restaurants, with a view to his eventually taking on a supported work placement.

Expected Learning Outcomes Jean-Marc is expected to develop the social and vocational skills necessary for successful work placement in the community.

Student Program Jean-Marc is being provided with opportunities to:

- develop work skills, such as following directions and functioning efficiently and productively in his work placements;
- visit work settings to find out the hours, pay, and working conditions of potential jobs;
- increase his ability to travel independently to job placements;
- extend, through role playing or modelling, his work-related language (to include job-related jargon and the elements of adult social conversation) and his ability to ask for help on the job, take a job interview, and talk to customers;
- read words that he will need to recognize if he works in a cafeteria or restaurant, including warning labels, words on menus, the names of hazardous products, and the words on job-application forms;
- prepare to fill out job-application forms by practising his signature and address (sometimes with the aid of a computer, which helps him to improve his spelling of important personal words);
- learn to tell time, so that he can be punctual, understand clocking in and out, and time his lunch and coffee breaks;
- refine his money-handling skills by using a vending machine, purchasing his lunch, and banking his earnings;
- learn the importance of personal hygiene (e.g., showering, using deodorant, wearing appropriate clothing, using an apron in the cafeteria, following hygienic procedures in the kitchen).

COMMUNITY LIVING SKILLS

Overview

Learning community living skills is critical for students because such skills will enable them to adapt to and live in the community independently and successfully. The key to learning community living skills is practice in real-life situations. If students are to develop the social and economic competence necessary to function independently, their programs must give them opportunities to integrate into the community.

A key feature of community-living-skills programs is decision making – that is, learning to identify problems, to decide on plans of action, and to accept the consequences of the chosen actions.

Community living skills can be taught in all grades and in a number of program areas. For the younger student, community awareness is emphasized through excursions in the community – excursions that involve, for example, observing community helpers in action or purchasing items for use in the classroom.

For the older student, community living experiences can be provided through consumer studies and personal-life-management courses. Students require individualized, community-focused programs that include activities such as shopping for goods and services, using public transportation, using financial services, and selecting appropriate support services.

Experiences for students with multiple needs may include opportunities for sensory and social stimulation from sounds and sights in the community.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- identify students' physical, cognitive, social, and communicative capacities and needs with respect to community involvement;
- obtain parents' co-operation and consent for their children's participation in community-based programs;
- identify community agencies and facilities that are used by students' families and by the school;
- identify priorities for learning (e.g., crossing the street safely, purchasing food, using a hospital);
- identify opportunities for social interaction with peers;
- identify safety hazards (e.g., traffic, possibility of exploitation by people in the community);
- develop policies about such matters as insurance and staff support;
- plan for the additional costs of community-based programming;
- identify any logistical problems (e.g., staffing, timetabling).

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:

- begin community-based programming in the elementary years and gradually increase the amount of time spent on this area;
- use an integrative approach, combining language, mathematics, and the social and mobility skills required for functioning in the community;
- use a variety of techniques in the classroom (e.g., role plays, films, games, discussions) to reinforce community learning;
- provide opportunities for students to generalize their skills to a range of environments (e.g., to purchase groceries at various supermarkets, to use several banks);
- provide students with problems to solve in a variety of community environments (e.g., returning an item for a refund, finding their way when lost);
- monitor students' skills carefully and provide tasks that are challenging;
- provide community experiences that are age-appropriate.

Resources

Falvey, Mary A. *Community-based Curriculum: Instructional Strategies for Students With Severe Handicaps.* Baltimore: Paul H. Brookes, 1986.

Ontario. Ministry of Education. *Business Studies, Intermediate and Senior Divisions: Consumer Studies.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1987.

_____. *Community Study.* Curriculum Ideas for Teachers. Toronto: Ministry of Education, Ontario, 1977.

_____. *Geography, Intermediate and Senior Divisions, Part A: Policy and Program Expectations.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1988.

_____. *Personal Life Management, Intermediate and Senior Divisions.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1985.

Case Study – Elementary Level

Student Profile Jonathan is a seven-year-old with multiple disabilities. He has a slow, unsteady gait as a result of cerebral palsy; is subject to grand mal seizures, which are usually controlled by medication; and has a severe hearing loss in his left ear. He requires assistance with toileting and has difficulty with the fine-motor skills needed for such dressing tasks as buttoning and zipping clothes. He points and gestures to communicate what he wants. He understands one- and two-word phrases, but it is necessary to get his attention first because he is frequently unaware of his surroundings. He loves watching wrestling on TV and playing with "transformer" toys.

Learning Environment Jonathan attends a Primary class in a special school. An important goal for him is to increase his awareness of the environment around the school and his home. At school he is accompanied by his teacher or an educational assistant. His parents are willing to co-operate with the school in the development of a community-awareness program for Jonathan.

Expected Learning Outcomes Jonathan is expected to:

- develop skill at walking in the local community with his classmates and going to the store with the educational assistant to purchase wrestling toys;
- improve his awareness of safety practices, such as stopping at curbs and crossing with lights;
- improve his ability to interact appropriately with adults and peers when travelling in the community.

Student Program Jonathan is being provided with opportunities to:

- expand his understanding of the words he needs for safe travel in the community (e.g., *stop, wait, sidewalk, curb*) by attending to environmental cues such as buildings, colours, and distinctive signs;
- refine his pointing and gesturing skills to indicate where he wants to go, what he wishes to purchase, and so on;
- recognize the logos for men's and women's washrooms in the school and the community;
- develop appropriate ways of interacting with his peers, school staff, and store personnel through verbal prompts, modelling, and praise;
- develop increasing independence in the use of public washrooms;
- learn to choose appropriate clothing for outings by practising making choices;
- take responsibility for wearing his safety helmet when walking;
- develop an awareness of safety practices in the community (e.g., using the sidewalk, stopping at curbs, looking both ways before crossing streets, recognizing traffic lights);
- develop a variety of mobility and endurance skills by walking on a variety of surfaces (e.g., sidewalks, grass, slopes, snow, ice) and by stepping up and down curbs or stairs;
- improve his fine-motor skills (e.g., handling money to purchase a wrestling poster).

Case Study – Secondary Level

Student Profile Fifteen-year-old Corinne takes care of her personal needs and communicates effectively. She is very shy, especially when talking to people whom she does not know well. She is able to read important words that she encounters in the community (e.g., *STOP, LADIES, DANGER*) and to add and subtract to 10. She is well co-ordinated and enjoys participating in a variety of sports.

Learning Environment Corinne attends a special class in her local secondary school.

Expected Learning Outcomes Corinne is expected to:

- learn to travel to school on her own by public transit through an extensive program designed specifically for her;
- generalize her independent travelling skills to other excursions, such as going bowling.

Student Program Corinne is being provided with opportunities to:

- develop the language skills she needs to request bus tickets, ask for assistance or directions, and request information about bus routes and times;
- develop the ability to follow oral directions if lost;
- read significant information on the bus and in the station, the names of streets en route, the names of community stores and recreational facilities, and a bus timetable;
- improve her ability to read and write important information on her student identification card, including her parents' workplaces, her telephone number, and the school address;
- overcome her shyness about asking questions and learn how to interact effectively with transit personnel and other travellers by practising specific dialogue, using confident body language, and role playing possible situations;
- become responsible for carrying proper identification, caring for her personal belongings en route, making a telephone call from a public booth, and practising street safety;
- practise problem-solving procedures that she can use in an emergency;
- develop competence in using money by purchasing tickets, making telephone calls, and paying to use a bowling lane;
- develop numeracy skills by recognizing the time of arrival of various buses and estimating what time she needs to leave home in order to arrive at school on time.

FAMILY STUDIES

Overview

Family studies provides students with opportunities to understand the role of the family in society. Students develop self-confidence, interpersonal skills, and the awareness they will need to function well in a family and to manage their family lives in today's rapidly changing world (see Ontario, Ministry of Education, *Family Studies, Intermediate and Senior Divisions, 1987*, p. 4). Students may also be provided with opportunities to understand the rights and responsibilities of family members, to appreciate differing lifestyles and cultural backgrounds, and to develop personal values about family goals and beliefs. On the more practical side, students may learn skills in nutrition, meal preparation, clothing care, house maintenance, and management of household finances.

A primary objective of education for students with developmental disabilities is preparation for living in the community as independently as possible. The attainment of this objective requires long-term joint planning by the home and the school. The program should emphasize both the interpersonal skills necessary for living independently (or in a small family group) and the practical skills required for managing one's personal and domestic life.

Teaching practical domestic skills is important for several reasons. By enabling students to attain independence in key domestic areas, these skills enhance self-esteem and freedom and increase students' acceptance by the community. The ability to perform certain domestic tasks may also open up career opportunities.

Elementary-school children learn many of these skills through play and through natural exploration of their environment. Playing "house", helping with chores at home or school, and experimenting with cooking and tasting are only a few examples. An integrated approach can combine language arts, mathematics, and cooking in one thematic unit. Education about nutrition can be part of an environmental studies program. Children with disabilities can be included in these programs naturally, working in small groups with non-disabled peers. Additional practice in certain skills can be provided in a special-class setting.

Intermediate and Senior Division students can participate in family studies programs. Where it is feasible and appropriate to do so, students can be integrated into the community school with the support of other students or educational assistants. However, because these students may require more time than other students do to acquire the skills they need to function domestically on their own, it is probably unrealistic to expect that their participation in a secondary school family studies class in itself will provide them with sufficient practice. Additional training sessions or reinforcement may be required in the classroom or at home. There is evidence that students with challenging needs will have more chance of success if skills are taught in the natural environment.

At this level it is essential to plan for students in close co-operation with a parent or other person from the home. It is important to identify skills that are functional for a student's present and future environments, that are used frequently during the day or week, and that are needed immediately. Selected skills should also be socially relevant and age-appropriate. In addition to such tasks as cooking a meal, cleaning a room, or doing laundry, students must learn a cluster of related communication and social skills. They must also be made aware of safety factors.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- identify the skills that students need most in order to function more independently at home;
- involve students' parents in the long- and short-term planning for future living arrangements;
- identify students' motor, cognitive, and communicative abilities and assess their competence at domestic tasks in order to determine areas that require instruction;
- identify support services (e.g., physiotherapists, volunteers) required to implement training;
- plan the modification of equipment (e.g., adaptation of devices for cutting) or the curriculum (e.g., creation of pictorial recipes) to facilitate students' full or partial participation;
- identify hazards (e.g., sharp knives, poisonous cleaning products);
- identify skills that represent career possibilities.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:
- teach skills in the context in which they are typically performed, if possible (e.g., cooking in a kitchen at home or school rather than in a simulated environment);
- involve other students, if that is possible, in modelling, social interaction, and tutoring;
- ask parents to co-operate by allowing students to practise their skills at home;
- provide adapted equipment for students with physical disabilities, to increase independence;
- modify equipment and materials for non-readers (e.g., use colour cues or pictorial symbols on stoves, or recipes with simplified language and pictorial cues);
- provide practice in recognizing the warning symbols used on household products;
- provide opportunities for natural social interaction during activities;
- review and evaluate skills acquisition in various environments (e.g., doing laundry at home, at school, and at a laundromat).

Resources

Ontario. Ministry of Education. *Family Studies, Intermediate and Senior Divisions and OAC.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1987.

_____. *Personal Life Management, Intermediate and Senior Divisions.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1985.

Ontario. Ministry of Education and Ministry of Energy. *Clothing, Shelter, and Energy.* Curriculum Ideas for Teachers. Toronto: Ministry of Education, Ontario, 1980.

Case Study – Elementary Level

Student Profile Thirteen-year-old Luigi has multiple disabilities. He is visually impaired and can distinguish shapes and light and dark objects at a distance. He can see colours and smaller objects if they are held within thirty centimetres of his eyes. It is difficult for him to function in his environment because of his visual impairment. He feeds himself with a spoon and attends to his toileting needs but requires considerable help with dressing. Luigi communicates with gestures and high-pitched grunts. He follows directions spoken in short, concrete sentences. His parents want him to become more independent in caring for himself at home.

Learning Environment Luigi attends a small, self-contained class in his community school. He requires individualized help from an adult or friend to perform the expected tasks.

Expected Learning Outcomes Luigi is expected to:
- assist in laundering the towels after the swimming program;
- with the help of a Grade 8 buddy, choose appropriate clothes and care for them;
- learn to sort his clothes for laundering and to fold and put them away when they are clean.

Student Program Luigi is being provided with opportunities to:
- develop concepts of similarity and difference by sorting and matching clothing (e.g., by type, colour, texture);
- extend his vocabulary and expand his gestures through activities related to sorting clothing (see the preceding activity);
- respond with appropriate actions to directions given orally in two- and three-word phrases;
- develop the ability to recognize his own clothing and various kinds of clothing in general (e.g., socks, underwear, sweaters) by deciphering both visual and tactile clues;
- refine the fine-motor skills involved in picking up and releasing clothes, folding clothes, opening dresser drawers, and hanging up clean clothes;
- extend his independence by hand washing items of clothing and helping to operate the washer and dryer.

Case Study – Secondary Level

Student Profile Nora is eighteen years old, has good self-care and speaking skills, and has a large vocabulary. She tells time accurately, can do computation to 20, and travels to school on her own. She enjoys cooking and is able to make several simple recipes. She is about nine kilograms overweight and would like to lose weight.

Learning Environment Nora attends a special class in a local secondary school. She is integrated into a Grade 10 family studies program in which the focus is on food preparation and nutrition. She is paired with a peer for support in reading recipes and preparing food. She also prepares meals at home.

Expected Learning Outcomes Nora is expected to:
- learn to prepare several well-balanced meals independently, using adapted recipes;
- apply her cooking skills at home by preparing simple meals;
- participate in a weight-loss program based on sound nutritional principles.

Student Program Nora is being provided with opportunities to:

- increase her vocabulary about nutrition (learning such terms as *proteins, carbohydrates, food groups, calories*) and about food preparation (*grill, fry, bake, whip, litre, gram*) in the context of cooking;
- read key words in adapted pictorial recipes (e.g., names of ingredients and utensils, preparation terms);
- prepare shopping lists of ingredients, personalized recipe cards, or descriptions of meals she has learned to make;
- grow in self-esteem through such positive experiences as interacting with peers while cooking, participating in a discussion of weight loss or nutrition, and working co-operatively with a partner she has chosen;
- learn about weight control and how to lose weight through dieting and exercise, and participate in school and community fitness classes;
- develop appropriate mathematics concepts such as units of measurement and simple fractions;
- determine appropriate oven temperature and length of time required for cooking or baking;
- learn to chart her weight loss.

HEALTH EDUCATION: PERSONAL CARE

Overview

Personal-care programs involve all facets of the curriculum. Such programs can include developing students' ability to communicate a need, developing the fine- or gross-motor skills needed for dressing and undressing, and developing the organizational skills needed for choosing, maintaining, and managing clothing. For some students who require a high degree of support, the development of personal-care skills can become one of the major emphases of their overall program.

Proficiency in such areas as eating, dressing, grooming, personal hygiene, and toileting is crucial to the student's sense of self-worth and ability to control the environment in which he or she lives. Not all students will achieve total independence in personal care. Nevertheless, opportunities to establish appropriate health and hygiene habits need to be provided in the home, school, and community.

Within the school environment, lunch time and recesses provide students with opportunities to learn and apply independence in eating as well as to enjoy communication and social interaction.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- involve parents in establishing realistic personal-care expectations based on individual needs;
- observe and assess what students can do for themselves;
- become aware of students' motor and cognitive abilities;
- involve qualified health-support professionals if needed;
- become aware of the methods by which students communicate their likes, dislikes, choices, and problems;
- assess students' gross- and fine-motor control, balance, range of motion, and perceptual abilities;
- consider modifications to clothing, equipment, and eating utensils to accommodate students' needs.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:
- teach personal-care programs in the most natural environment possible, ensuring that the setting is age-appropriate;
- frequently review specific modifications and adaptations of equipment;
- evaluate specific programs continually;
- consult with health professionals when the need arises;
- share program strategies with parents;
- communicate progress to parents regularly.

Resources

Metropolitan Toronto School Board. *The Developmentally Handicapped Student: Curriculum Guidelines.* Toronto: Metropolitan Toronto School Board, 1986.

Orelove, Fred, and Sobsey, Dick. *Educating Children With Multiple Disabilities: A Transdisciplinary Approach.* Baltimore: Paul H. Brookes, 1987.

Case Study – Elementary Level

Student Profile Ten-year-old Nick had anoxia during childbirth. His physical problems include microcephaly, cerebral palsy (spastic quadriplegia), mild scoliosis, and a dislocated hip. He has no form of independent mobility and depends on others for all aspects of his daily care. He has poor head control, limited use of his hands, and no use of his legs. He has excellent eye contact and communicates by eye pointing at a picture board. Nick cooperates only for favourite staff members. He is very difficult to feed and often clamps down on his spoon so that it is difficult to remove it from his mouth. He lives in a small (fifty-bed) residential facility for persons with developmental disabilities.

Learning Environment Nick has been placed in a Junior class for students with developmental disabilities in a regular school.

Expected Learning Outcomes Nick is expected to:
- develop fine-motor skills;
- demonstrate personal-care skills to the extent that he is physically capable;
- improve his ability to relax, socialize, and communicate with staff and students;
- communicate his needs and desires.

Student Program Nick is being provided with opportunities to:
- relax, inhibit his bite reflex while eating, and take food off the spoon with his tongue;
- make choices about what he would like to eat or drink by eye pointing;
- eye-point to his lunch, cup, toothbrush, coat, and other personal belongings;
- eye-point to *yes* and *no* cards to indicate whether or not his face is clean after he has viewed it in a mirror;
- improve his reach in order to operate environmental-control switches;
- learn to exert sufficient pressure to turn switches on and off.

Case Study – Secondary Level

Student Profile David is an eighteen-year-old student with severe disabilities, including poor fine- and gross-motor skills. He is learning to print his name, to count to 5, and to recognize colours. David seems unaware of his appearance: his hair is often messy and his clothes are uncoordinated. He often comes to school dressed inappropriately for the weather. He is friendly, but in conversation he often repeats the same few phrases over and over.

Learning Environment David has been placed in a special class in a secondary school. He is integrated into regular classes for physical education, and he has his lunch in the cafeteria with the other students.

Expected Learning Outcomes David is expected to:
- develop appropriate conversational skills;
- accept responsibility for his personal hygiene and grooming;
- develop skills required for independent living;
- demonstrate age-appropriate behaviour in his peer relationships.

Student Program David is being provided with opportunities to:
- maintain a well-groomed appearance and dress appropriately and seasonally;
- shower and wash his hair after physical education classes and swimming;
- complete grooming routines after lunch each day;
- socialize and converse with other students in the school cafeteria in order to improve his expressive language and to become more aware of personal grooming through peer influences;
- shop for clothes in the community, matching colours and choosing the clothing items he needs to make a complete outfit.

HUMAN SEXUALITY

Overview

Learning to understand oneself as a sexual human being begins with a concept of self. In infancy, the initial social contacts on which the later acceptance of one's sexuality are based are positive interactions with parents and other caregivers. Values concerning sexuality are also communicated to the young child in the home.

The elementary school builds on these early experiences in a number of ways. In physical education classes, students become aware of their bodies and of the physical changes that their bodies undergo. Environmental science provides students with opportunities to learn about the reproductive processes of various kinds of living things. At the same time, relating positively to friends of both sexes, exploring roles in the family, and examining various lifestyles all help young children to understand their own sexuality.

Adolescents explore more deeply both the physical and the psychological changes of puberty. Information about reproduction and about sexually transmitted diseases is part of the regular physical education curriculum. A broader treatment of relationships, dating, parenting, lifestyles, and values may take place in such curriculum areas as family studies and personal life management.

All students should be involved in programs designed to make them aware of and comfortable with their sexuality. In order to live as independently in the community as possible, they need to be able to attend to their basic personal and hygienic needs and to relate to persons of both sexes appropriately.

Students' individual needs will determine the content of the curriculum. Some students may require specific and individualized training to deal with the hygienic needs of menstruation or nocturnal emissions or the need for deodorant. For others, a discussion of appropriate social behaviour in the school and the community may be necessary. Behaviours such as public masturbation and inappropriate touching may have to be addressed. As well, because these students may be more at risk for being sexually abused or exploited, strategies for self-protection in the community may have to be discussed.

A program in human sexuality may be offered in the context of a broader program of human relationships. The value systems of students' families and cultures should be considered, but dating, marriage, pregnancy, and parenting can all be discussed.

Where possible, social interaction with non-disabled peers should form part of the program. Such interaction might involve attendance at regular school functions, such as dances or football games. Role playing or peer tutoring may be used to teach dating skills, but the sensitivity of the content may dictate that certain aspects of the program be taught individually or in a small group.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- develop policies at the school board or school level;
- identify students' social, emotional, and cognitive needs;
- identify parental concerns, expectations, and values;
- identify specific behavioural concerns in school, at home, or in the community;
- plan for the involvement of non-disabled peers if appropriate;
- identify community-based resources (e.g., public health offices, counselling services);
- provide information for staff about the content area and about students' needs;
- design realistic goals for students based on their individual capabilities and projected lifestyles as adults.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:

- begin human sexuality education early, in the context of social-living skills;
- provide individualized instruction, if necessary, as well as classroom experiences;
- use a variety of teaching aids (e.g., films, videos, slides, pictures);
- have students role play a variety of situations that might arise in the school and the community;
- develop games to teach social skills;
- make use of community resources, such as doctors and public health nurses and displays (e.g., at facilities such as the Ontario Science Centre);
- review concepts in a variety of ways;
- discuss the program with parents regularly and involve them in monitoring the behaviour of their children and in designing new goals to increase students' independence;
- offer in-school and community-based experiences for students with peers.

Resources

Ontario. Ministry of Education. *Family Studies, Intermediate and Senior Divisions and* OAC. Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1987.

_____. *Personal Life Management, Intermediate and Senior Divisions.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1985.

_____. *Physical and Health Education, Intermediate Division.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1978.

Case Study – Elementary Level

Student Profile Twelve-year-old Terry is large for his age and very good looking. He is friendly, outgoing, and talkative. Although he has limited reading and writing skills, he is very aware of the environment and notices everything that is going on around him. Recently, Terry has been making inappropriate sexual advances to some of the girls in the Grade 6 class.

Learning Environment Terry attends a special class in a local elementary school and is integrated with a Grade 6 class for physical education. Because individual counselling may be necessary in order to eliminate his inappropriate sexual behaviour, close co-operation between the school and Terry's home is essential.

Expected Learnng Outcomes Terry is expected to:
- demonstrate appropriate sexual behaviour in school and in the community;
- increase his social awareness through participation in the Grade 6 health program and a socializing group in his classroom.

Student Program Terry is being provided with opportunities to:
- learn appropriate vocabulary related to puberty and sexuality through the use of audio-visual materials, including films, slides, and pictures;
- talk about his feelings and sexual urges and appropriate ways of dealing with them;
- learn and practise ways of interacting appropriately with peers through modelling and role playing;
- learn proper hygienic procedures, such as showering, shaving, using deodorant, and caring for the genital area.

Case Study – Secondary Level

Student Profile Twenty-year-old Sheila is able to read simply written materials and to travel in the community by public transit. She is attractive, friendly, and outgoing. She is dating a twenty-three-year-old man and says that they plan to marry as soon as she graduates. She is also overly friendly to men whom she meets in the community. Her mother feels that Sheila does not have the interpersonal skills she needs to have a long-lasting relationship and fears that Sheila will become pregnant.

Learning Environment Sheila attends a special class in a secondary school.

Expected Learning Outcomes Sheila is expected to:
- learn to make responsible decisions concerning her sexuality, at school, at home, and in the community;
- take part in a peer counselling program that emphasizes social skills.

Student Program Sheila is being provided with opportunities to:
- review information on human reproduction and sexually transmitted diseases, including AIDS (this review may be done by the school nurse);
- increase her understanding of such concepts as sexual abuse, rape, and pregnancy through discussions and audio-visual presentations;
- discuss the social, cognitive, and vocational skills necessary for successful marriage and parenting (she participates with Grade 12 students in role playing community situations – e.g., going somewhere with a stranger – and marriage and family relationships – e.g., arguments over money, discussions of the roles of husbands and wives);
- participate in school and community activities to develop a variety of leisure skills (e.g., attending movies, using community recreational centres, going to dances);
- read simply written, well-illustrated materials or scripts on topics related to human sexuality;
- discuss methods of birth control that are consistent with her family's values, health care during pregnancy, gynecological examinations, and childbirth.

INDUSTRIAL ARTS/ WOODWORKING

Overview

The goal of a woodworking program is to develop in students a sense of personal satisfaction, pride, and confidence in their abilities. Students are provided with a broad range of projects that allow for individual differences and that provide opportunities for creative expression.

In project-based woodworking programs in the elementary school, pupils may become involved in individual and group projects and participate in activity-based learning experiences that develop perceptual, fine-motor, and cognitive abilities. In the secondary school, a woodworking program enables Senior students to prepare for the world of work, to learn home-maintenance skills, and to develop leisure interests.

Students are encouraged to suggest projects, to contribute design ideas that are simple enough for them to complete, and to create objects of beauty and utility.

Projects should yield products that are relevant to students' interests and useful in the real world. Community-based learning experiences, such as visits to plants, stores, galleries, and exhibitions, should be included to enrich students' lives.

Students should be provided with opportunities to develop safe woodworking practices and co-operative attitudes towards peers and supervisors, so that they will be able to integrate successfully into the work force. They should also be taught to identify woodworking tools and machinery and use them properly.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- plan projects that vary but that require similar skills;
- take into consideration student interests and preferences;
- take into consideration the ability of students to work independently at tasks;
- within realistic limits, allow students to choose and structure their projects, so that they will be interested in completing them;
- consider using a sequence of steps when teaching the skills required to complete projects;
- take into consideration students' eye-hand co-ordination, fine-motor control, range of motion, and hand dominance.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:

- identify consistent locations for storing tools and materials;
- identify safety hazards;
- offer relaxation exercises to students who are unable to relax voluntarily because of spasticity;
- sensitize students who are new to a shop environment by gradually introducing them to the sights, sounds, and smells of a shop (e.g., provide headphones for students who are sensitive to machine sounds);
- stress general shop safety and emphasize the overall safety of the individual and the group;
- emphasize safe work habits (e.g., safe handling of tools and equipment);
- emphasize completion of projects by focusing on the finished project and the various stages required for its completion;
- provide plenty of opportunities for students to use a variety of tools, machinery, and materials in order to develop their manual dexterity and mental acuity;
- provide both individual and group projects;
- adapt tools and machinery to the abilities and limitations of students;
- discuss the positive features of completed projects and make positive suggestions for improvement;
- communicate expectations for shop routines clearly at the outset so that students are aware of them;
- collect photos of completed projects as part of the record of student progress;
- observe students regularly to determine whether projects are appropriate and meet their needs.

Resources

Ontario. Ministry of Education. *Technological Studies, Intermediate and Senior Divisions, Part A: Policy for Program Planning*. Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1985.

_____. *Technological Studies, Intermediate and Senior Divisions, Part B: Construction Grouping*. Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1986.

Peterson, Franklynn. *Children's Toys You Can Build Yourself*. Englewood Cliffs, N.J.: Prentice-Hall, 1978.

Starr, Richard. *Woodworking With Kids*. Newton, Conn.: Taunton Press, 1982.

Case Study – Elementary Level

Student Profile Tracy, an attractive twelve-year-old, has cerebral palsy and depends on others for all her personal care. She likes to explore and manipulate objects by grasping and releasing items placed on her tray. Although she enjoys interacting with familiar people, Tracy has no communication system beyond smiling and gesturing.

Learning Environment Tracy has been placed in a special elementary school class and is integrated into other areas of the school during recess, lunch periods, and school assemblies.

Expected Learning Outcomes Tracy is expected to:
- increase her tolerance of unfamiliar people;
- reach for and grasp objects;
- increase her attention to tasks.

Student Program Tracy is being provided with opportunities to:
- develop object permanence by searching for and finding objects that she uses in simple constructions;
- develop the fine-motor skills of grasping and releasing objects that she uses in simple constructions;
- develop her senses through such experiences as touching sandpaper, smelling wooden objects, and listening to the machines in the workshop;
- participate in the making of simple constructions, using materials such as a hammer, nails, and glue.

Case Study – Secondary Level

Student Profile Sam, a shy nineteen-year-old, uses language effectively to communicate. He is developing skills in making decisions and solving problems. He participates in groups and is learning to initiate interaction with others. He is able to carry out written instructions and can follow three-step verbal directions. Sam uses a calculator to add and subtract.

Learning Environment Sam has been placed in a special secondary school class and is integrated into basic level woodworking and horticulture classes.

Expected Learning Outcomes Sam is expected to develop:
- realistic vocational interests and skills;
- a positive attitude towards work;
- recognition of safety words such as *DANGER, STOP,* and *POISON;*
- problem-solving skills.

Student Program Sam is being provided with opportunities to:
- learn safe work habits that include accident-prevention rules, shop routines, following directions, and caring for tools and equipment;
- become involved in group woodworking projects to develop social skills, such as co-operating with peers, initiating communication with peers, accepting group decisions, demonstrating sensitivity to the feelings of others, and sharing space, tools, supplies, and ideas with peers;
- use co-operatively a variety of measurement instruments;
- plan co-operatively woodworking projects that involve organizing his time, communicating his ideas, and selecting and properly using tools and equipment;
- develop the skills of cutting, glueing, sanding, hammering, fastening, brushing, and working to lines;
- learn to read signs in the shop area that give safety warnings and tool names.

LANGUAGE ARTS

Overview

The ability to use and understand language is a central concern of all curriculum development. Because language is the basic tool for structuring and making sense of events, it is the most important tool for learning.

Language is rooted in experience. Thus, students' experiences and knowledge provide teachers with starting points for the further development of language skills. It is the teacher's role to acknowledge students' developmental levels and language abilities and help students relate what they have experienced, felt, or thought. The goal of the language arts program is to develop to the fullest each student's ability to understand what others say; to speak so that needs, feelings, and ideas are communicated effectively; to read for pleasure as well as for information; and to write to describe experiences and express thoughts and feelings. The ultimate goal for students is to be able to use language efficiently with a variety of people and in a variety of situations.

The whole-language approach is based on the recognition that language is derived from experience and that the language arts skills of listening, speaking, reading, and writing are interrelated and should be taught in an integrated way. Teachers should take advantage of opportunities that occur naturally throughout the school day for students to listen attentively, to communicate with others, and to read and write for meaningful purposes.

In the whole-language approach, students are given opportunities to read to improve their reading skills and time to write to improve their writing skills. This contrasts with the approach in which component skills (e.g., spelling, grammar, punctuation) are singled out for direct teaching and reinforcement. In the whole-language approach, children are encouraged to express their ideas and feelings and to find new interests to talk about. Techniques include brainstorming and use of learning centres, and materials include literature and printed material from everyday life (e.g., newspapers, magazines, advertisements, notices).

An effective language program is one that can accommodate the interests, needs, and strengths of each student. Students who communicate using sign language and/or pictures should be provided with opportunities to expand their skills. Students who can learn to read should be encouraged to develop an appreciation of the significance and usefulness of reading in their lives. Computers can be used very effectively by some students for reading, writing, and drawing. In all cases, students should be encouraged to select their language to suit the purpose of their message and the needs of their audience.

Teachers should consider the communication demands of the classes in which their students participate. Preparation for and follow-up after integrated or subject classes will help students to cope with these language demands. Teachers should also address the language demands of the community activities in which students participate. By increasing their proficiency in the understanding and use of language, students can increase their independence in the school, home, community, and workplace. Feelings of self-confidence and self-worth will increase as students experience success in communicating with others, drawing meaning from print, and expressing ideas in writing.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- assess students' understanding and use of language in a variety of natural settings and with a variety of people;
- determine students' reading and writing demands and language opportunities in the home, the school, and the community;
- where appropriate, involve students in determining learning objectives;
- determine parents' expectations and priorities for language learning;
- specify language goals in all subject areas;
- conduct interest and attitude surveys as part of the assessment process;
- plan to teach students to read and write personal and social messages, such as components of personal identification (e.g., name, address, telephone number); descriptions of self; reminders, messages, requests, and lists of things to do, prepare, or buy; and letters and notes to thank, to invite, and to express sympathy;
- ensure that skills such as phonics and punctuation will be taught in the context of students' own reading and writing;

- plan a physical environment that will emphasize the importance and relevance of reading and writing activities (one that provides, for example, interesting books, current magazines, message boards, sign-up lists, bulletin boards containing important notices);
- arrange for a language-rich environment, good language models, and opportunities for students to interact with peers who can understand and respond to their language;
- arrange opportunities to participate in dramatic arts or to role play with peers.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:
- use students' reading and writing performance as the principal source of information about which skills to teach next;
- give a high priority to the interpersonal aspect of language;
- focus on language activities that are meaningful and useful to students;
- use peer tutors in the implementation of programs;
- expose students to literature, through reading, listening, or viewing;
- make use of daily activities that occur naturally in the school and the community to develop language skills (e.g., listening to school announcements; relaying oral and written messages within the school; reading signs, posters, labels, directions, and notices);
- provide students with opportunities to use computers for interactive reading programs;
- provide opportunities for students to become active listeners and viewers of films, radio, and television;
- while recognizing students' preferences in reading, viewing, and listening, expose them to a broad range of media to encourage a wider repertoire of interests;
- evaluate students' language performance in relation to the purpose and function of the activity. Evaluation should be co-operative, positive, and constructive;
- evaluate students' performance continually through observation and student-teacher conferences, rather than through standardized tests;
- teach students to apply their language skills to their leisure activities;
- encourage students to enrol in continuing education courses after graduation to improve their language skills.

Resource

Ontario. Ministry of Education. *Focus on Writing.* Curriculum Ideas for Teachers. Toronto: Ministry of Education, Ontario, 1982.

Case Study – Elementary Level

Student Profile Patrick is an active six-year-old who has multiple handicaps. He has partial vision, and his speech is unclear, although his parents and teachers can usually make out what he says. His high activity level interferes with his ability to stay on task. His gross-motor skills are delayed in comparison to his other skills. He demonstrates an interest in puzzles and construction blocks, but he has difficulty with concepts such as colours, figures, numbers, and letters.

Learning Environment Patrick attends a special class in a regular elementary school. He is integrated in a Senior Kindergarten class each morning and afternoon.

Expected Learning Outcomes Patrick is expected to:
- increase his willingness to communicate with his peers;
- attempt to communicate as clearly as he can;
- develop the skills and attitudes necessary to learn to read and write.

Student Program Patrick is being provided with opportunities to:
- play at the building centre and gradually use other activity centres as he gains confidence and expands his interests;
- play with letter blocks in preparation for letter recognition;
- assemble puzzles that relate pictures to words;
- experiment with writing lines and squiggles and then tell the teacher what he is writing, in preparation for more formal writing activities;
- learn specific ways to ask for help, indicate a preference for an activity when appropriate, greet another child, and listen attentively to other children;
- learn to co-operate and to take turns;
- follow directions and routines;
- participate daily in circle activities in which colour, number, and letter concepts are reviewed;
- listen to stories read by the teacher, participate in the related discussions, and, if possible, develop a list of favourite stories;
- through exposure to his peers' activities, develop an interest in printing and drawing;
- "write" by having his stories written by the teacher or a facilitator;
- learn to write the first letter in his name and use a name stamp to "sign" his work;
- learn to identify his written name by sight;
- associate printed symbols with familiar objects in the classroom;
- compile a list of common logos that he recognizes.

Case Study – Secondary Level

Student Profile Fifteen-year-old Anna has Down syndrome. Her teachers describe her as a friendly, interactive girl who enjoys the company of adults. They are pleased that Anna has recently become more attentive to her Grade 8 peers and is beginning to share some of their interests (e.g., fashion and music). Anna expresses herself readily and carries on a conversation with ease. She has developed some basic literacy skills; for example, she can identify and write the letters of the alphabet, can read common signs and notices, has a basic sight vocabulary, and writes her first and last names. Although she is able to copy printed material, she rarely initiates a writing activity.

Learning Environment Anna attends her community school and is registered in a special class. In preparation for her transition to secondary school next year, she is being provided with many opportunities for integration. She is integrated into the Grade 8 class for guidance, physical education, social sciences, and family studies.

Expected Learning Outcomes Anna is expected to:
- increase her language skills;
- begin to use these skills in personally useful ways;
- participate in language arts with her Grade 8 peers in order to increase her exposure to a range of reading and writing activities.

Student Program Anna is being provided with opportunities to:
- read materials about subjects that interest her and discuss these with her peers and teachers;
- interact with her Grade 8 peers and discuss topics of shared concern;
- read and follow her own timetable so that she will no longer require teacher reminders to prepare for her next class;
- learn new subject names to ease her transition to secondary school and to allow her to use a timetable independently in Grade 9;
- write a list of the books or materials that she requires for her classes, and update and change this list as necessary;
- read modified materials in specific subject areas (e.g., guidance, history);
- in co-operation with her parents, use a TV guide and the newspaper to look up information in which she is interested;
- in co-operation with her parents, choose favourite records and tapes. In preparation for these activities, she will prepare a list of favourite performers;
- compile a personal directory of names, addresses, and telephone numbers, especially useful because she will be leaving many of her classmates;
- learn the social function of writing by sending thank-you notes, greeting cards, and invitations when appropriate occasions arise;
- join the Grade 8 class to study a novel (i.e., listen to the story on tape and then join a small group of her peers to discuss it);
- identify skill areas in which she needs and wishes to improve;
- discuss what she is learning in various subject areas;
- take part in daily writing activities that follow the four stages of prewriting, writing, postwriting, and sharing and that are based on her personal interests, experiences, and concerns;
- learn that writing and reading can be personally useful (by reading, for example, school notices that outline special events and activities, flyers and brochures outlining community programs, written information regarding her secondary school program);
- be exposed to reading activities that may lead to leisure activities (e.g., collecting and looking through magazines).

LEISURE EDUCATION

Overview

The purpose of leisure education is to prepare students for their leisure time by systematically teaching them how to use this time constructively. The emphasis is on having students integrate leisure interests into their lifestyles.

Leisure education provides opportunities for students with developmental disabilities to develop a repertoire of interests and hobbies that can be enjoyed in free time. Frequently, these students have an abundance of free time that can be meaningfully filled with enjoyable leisure activities.

Leisure education should be thought of as an integral part of all aspects of students' curriculum. For example, through the physical education program, students are exposed to a range of individual and team activities that they can participate in for the rest of their lives. Similarly, the arts programs provide students with opportunities to develop lifelong leisure interests, such as playing music, producing crafts, reading literature, attending concerts, and taking photographs. The goal is to have students generalize the skills, interests, and attitudes that they learn in school to other environments during their out-of school hours.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:
- identify students' likes and dislikes in order to determine what leisure activities they might enjoy;
- ensure that leisure activities and materials will be age-appropriate and will be taught in the environments in which they usually occur;
- consider a balance between active and passive activities when designing leisure programs;
- arrange leisure activities in which students will have to interact with their peers and with students of other ages;
- vary leisure options to include individual, small-group, and large-group activities;
- consider accessibility, cost, transportation requirements, staffing needs, and safety when determining the appropriateness of leisure activities;
- plan to use leisure materials that are easily manipulated.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:
- enlist parents' co-operation in implementing the leisure program at home;
- maintain regular communication with community agencies providing leisure experiences for students;
- consider feedback from students when evaluating the appropriateness of leisure experiences.

Resources

Ballantyne, Bob. *Leisure Lifestyles: A Resource for Community Agencies and Organizations to Encourage "Education for Leisure"*. Kitchener, Ont.: Kitchener Parks and Recreation Department, 1987.

Bender, M.; Brannan, S.; and Verhoven, P. *Leisure Education for the Handicapped: Curriculum Goals, Activities, and Resources*. San Diego, Calif.: College Hill, 1984.

Biel Wuerch, B., and Voeltz, L. *Longitudinal Leisure Skills for Severely Handicapped Learners*. Baltimore: Paul H. Brookes, 1982.

Cherry, Catherine, and Woodburn, Bob. *Leisure: A Resource for Educators*. Toronto: Ministry of Culture and Recreation, n.d.

Falvey, Mary. *Community-based Curriculum: Instructional Strategies for Students With Severe Handicaps*. Baltimore: Paul H. Brookes, 1986. See pp. 101-17.

Case Study – Elementary Level

Student Profile Sean is a co-operative eight-year-old who is motivated to learn and who enjoys interacting with his peers. He communicates using two- and three-word phrases and takes pride in his ability to complete tasks independently. Sean is developing the motor skills needed for cutting and printing and is learning classification skills of sorting and matching.

Learning Environment Sean has been placed in a Grade 2 class and is integrated into a special education resource program for speech assistance and language arts instruction.

Expected Learning Outcomes Sean is expected to:
- participate and co-operate with his peers in leisure activities;
- begin to use his leisure time constructively at home and at school;
- develop the interactive communication skills required to participate in group leisure activities;
- build self-confidence through the development of hobby and recreation skills.

Student Program Sean is being provided with opportunities to:
- learn the classification skills of sorting, matching, and categorizing so that he can develop a baseball-card collection;
- learn card-playing skills that involve one-to-one correspondence and numeral recognition to 10;
- cut and paste pictures from magazines and newspapers to create a leisure album that will increase his awareness of the available leisure options;
- participate in a daily fitness break;
- increase his awareness of leisure activities, including indoor and outdoor sports and games;
- participate with family members in table games and outdoor sports.

Case Study – Secondary Level

Student Profile Twenty-year-old Kelly is learning to become more independent in her community. She communicates her needs with speech and interacts appropriately with peers and adults. Kelly learns new skills quickly in the environments in which she is expected to use them. She dislikes leisure activities that require fine-motor skills. She prefers activities that allow her to socialize and actively participate.

Learning Environment Kelly has been placed in a special secondary school class and integrated into family studies and personal-life-management classes.

Expected Learning Outcomes Kelly is expected to:
- become aware of the leisure options available to her as an adult;
- examine her everyday use of leisure time;
- take more responsibility for the leisure time that she has outside school;
- travel more independently in the community;
- become acquainted with community support agencies;
- interact appropriately with peers and adults in her community.

Student Program Kelly is being provided with opportunities to:
- maintain a diary of the leisure activities in which she has been involved;
- read schedules, menus, and signs in her community so that she can use libraries, restaurants, and shopping malls as leisure options;
- estimate time so that she can arrive at leisure destinations on time;
- pay admission fees and restaurant bills as part of the training she requires to attend concerts and other leisure events;
- improve her endurance through daily fitness routines so that she can take buses and walk distances to get to leisure destinations;
- use a telephone directory to contact agencies that provide leisure opportunities and information;
- learn to operate a video machine under a parent's supervision.

MATHEMATICS

Overview

Mathematical concepts and models help us to understand, analyse, and communicate both qualitative and quantitative ideas about our environment. They help us to make sense of the world around us and encourage the development of thinking and investigative skills. Mathematics skills help us to solve everyday problems, and they contribute to self-reliance, responsible consumerism, and effective management of financial resources. For these reasons, the development of mathematics skills is a high priority for all students.

Students must understand and appreciate the relationship between the mathematics they learn in school and the events and activities of daily life. This understanding is so crucial to students' success that it should be the primary focus of program development. Students must come to understand and use, both in and outside the classroom, the concepts of shape, size, number, distance, scale, time, and money.

The mathematics program should actively involve students in the learning process by providing them with opportunities to handle materials, ask questions, and make decisions. In order to ensure comprehension, teachers must take a systematic approach, developing a concept by moving from the concrete to the abstract. Such an approach might involve the following sequence of activities:

- an activity in which students actively participate;
- presentation of pictures or objects that illustrate or represent the concept;
- use of language to explain the concept clearly and consistently;
- introduction of written symbols that represent the concept;
- application of the concept in a variety of real-life situations.

It is important to recognize that some students will require extended opportunities to work at the concrete or pictorial level.

Mathematics instruction focuses on three major areas: arithmetic, measurement, and geometry. The depth and scope of programming in these areas will depend on individual needs and abilities, but the primary goal for all students is the development of problem-solving abilities.

Students can use computers for individualized mathematics learning and practice. Computers also provide opportunities for peer interaction.

It is important to focus on the skills that students require to function more independently at school, at home, and in the community. Teachers should also concern themselves with skills that will be needed in the next educational, work, or living environment.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- observe students in a variety of school and community settings to determine both the skills that they have acquired and those that they need to acquire;
- assess students' ability to recognize, select, and use relevant information to solve personal problems.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:

- provide students with a balanced program that comprises elements of arithmetic, measurement, and geometry;
- provide opportunities for students to use their skills to solve problems in a variety of community settings;
- provide opportunities for peer tutoring;
- provide memory aids (e.g., pocket-sized reference charts of basic arithmetic facts, multiplication tables, measurement conversions, money-equivalency statements) whenever possible;
- ensure that students are well versed in the use of the calculator;
- provide many, varied opportunities for students to practise and apply the skills they learn, both at school and in the community;
- evaluate achievement in terms of the student's ability to solve practical problems.

Resources

Ontario. Ministry of Education. *The Formative Years: Provincial Curriculum Policy for the Primary and Junior Divisions of the Public and Separate Schools of Ontario*. Toronto: Ministry of Education, Ontario, 1975.

_____. *From Counting to Calculation*. Support Document to *The Formative Years*. Toronto: Ministry of Education, Ontario, 1976.

_____. *Mathematics, Intermediate and Senior Divisions, Part 1: Grades 9 and 10, Basic Level, and Grades 11 and 12, Basic Level*. Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1985.

_____. *Ontario Schools, Intermediate and Senior Divisions (Grades 7-12/OACs): Program and Diploma Requirements*. Rev. ed. Toronto: Ministry of Education, Ontario, 1989.

Case Study – Elementary Level

Student Profile Clare is a playful, active six-year-old with Down syndrome. She is fitted with two hearing aids and wears glasses. Although her speech is unclear to people who have had no contact with her, her language skills are sufficient to enable her to communicate her needs effectively. Clare is toilet-trained and feeds and dresses herself with minimal help. Her gross-motor skills are somewhat underdeveloped, but she has no difficulty in getting around the school and playground. Clare shows a particular interest in cutting and pasting activities and can assemble an eight-piece inset puzzle. She can count orally to 5, although she does not yet have an understanding of the concept of sets.

Learning Environment Clare attends a regular Grade 1 program and is provided with adult support for about 30 per cent of the time she is in school. An itinerant teacher visits her once a week and assists the teacher in modifying the regular program to suit Clare's needs and in monitoring her educational plan.

Expected Learning Outcome Clare is expected to develop an understanding of early mathematical concepts.

Student Program Clare is being provided with opportunities to:
- explore many aspects of pouring and comparing through sand and water play;
- enrich her vocabulary of words for mathematical concepts (e.g., *shape, size, volume*);
- develop an understanding of the use of money by handling money that is brought to school for class trips or to make purchases;
- develop a sense of the sequence of activities and anticipate the next event by learning to follow school routines and recognize calendar events and seasonal changes;
- use numbers in such activities as stating her age, address, and telephone number;
- improve her perception of her body's size and position through physical activity;
- learn to discriminate, classify, and order objects at a very elementary level through activities involving blocks, pegs, beads, and interlocking cubes;
- improve her fine-motor skills by manipulating materials;
- develop an understanding of more formal mathematical concepts (e.g., the number concepts from 1 to 3).

Case Study – Secondary Level

Student Profile Michael is a co-operative, soft-spoken, well-mannered eighteen-year-old. He communicates effectively with others and can follow single-step instructions. He relates well to adults and peers and is well liked by his classmates. He has basic reading skills (e.g., he can read and follow his timetable). He writes his name, address, and telephone number and looks up baseball and hockey scores in the newspaper. He can count and sequence numbers to 100 and uses a calculator to solve problems involving addition, subtraction, and multiplication. He can tell time to the quarter-hour. He is usually accurate in identifying the date and is beginning to keep an appointment book. He approaches tasks carefully and completes assigned work on time.

Learning Environment Michael attends semestered classes at his community secondary school. He is integrated for mathematics and physical education but completes other academic tasks in the resource room. Michael has the ability to be independently employed. He has already participated in two in-school work-experience programs. His teacher has arranged for him to work at a company that assembles electronic parts for computers.

Expected Learning Outcomes Michael is expected to:
- learn to assemble electronic units and then package them in sets of 100;
- improve the numeracy and social skills that he will require for his personal needs and for independent employment.

Student Program Michael is being provided with opportunities to:

- calculate his salary, given his hourly rate and the number of hours that he will be working, and discuss how he will budget this amount;
- apply the banking skills he has learned in class (e.g., by making deposits and withdrawals);
- solve problems that will help him learn how to package electronic parts in units of 100;
- tell time to the minute so that he does not exceed the time allowed for morning, lunch, and afternoon breaks;
- determine the number of hours he will work and thus the amount of leisure or school time that he will have;
- become familiar with the kinds of deductions that will be made to his earnings;
- increase his understanding of terms related to employment (e.g., *deductions, income tax, gross* and *net income*);
- devise a budget based on his actual earned income;
- learn to relate effectively to supervisors in the work setting;
- increase his feelings of self-worth as he successfully completes his employment experience;
- express his feelings about satisfying and unsatisfying aspects of the job and discuss any difficulties he has had at work, in preparation for future decision making regarding employment.

MUSIC

Overview

Music is an excellent vehicle for self-development, self-expression, and social interaction. It can help students develop feelings of confidence and achievement and can be used to stimulate other areas of learning. Moreover, participating in musical experiences is fun. The primary goal of the music program is the same for all learners – to develop aesthetic potential through the processes of performing, creating, and responding to music.

Students should experience music through singing, listening, playing, creating, moving, dramatizing, and performing. It is by means of these activities that the basic elements of music (dynamics, form, melody, rhythm, texture, timbre, and tonality) are taught. Active participation and enjoyment are the key ingredients of music programming for all ages.

Because music is a social activity, it fosters growth in social skills. Such skills as responding to leadership, accepting responsibility, sharing, participating, and taking turns are easily incorporated into the music program.

Music plays an important role in school activities (e.g., "O Canada" is sung during opening exercises, special assemblies, and school concerts; cheers are heard in the playground and during sports events) and thus provides many opportunities for all students to participate as members of the school community. In the early grades particularly, music can be used to teach basic concepts, improve co-ordination and psychomotor abilities, and increase speech and language skills. Older students will benefit from a program that actively teaches leisure activities related to music.

Teachers should ensure that music programs allow for active participation, are enjoyable, increase students' aesthetic response to music, allow for positive participation with peers, and build on students' existing strengths.

Providing music education in the regular class is a challenge that requires the co-ordinated efforts of regular- and special-class teachers along with music specialists. With this kind of team effort, music programs and approaches can be modified and expanded so that all students reach their full potential to appreciate and love music.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- plan music programs co-operatively with regular and special educators and music teachers;
- plan music programs that are enjoyable and that allow for maximum participation with other students;
- ensure that singing, chanting, and dance activities will be appropriate to the age of students;
- plan activities that will motivate students and in which they will experience success;
- take into account students' language and cognitive skills, social skills, motor abilities, and attention span when designing specific program goals;
- consider students' hand dominance, fine-motor control, range of motion, and eye-hand co-ordination when planning activities involving musical instruments;
- when planning movement or dance activities, consider students' physical abilities, body awareness, and co-ordination;
- encourage parents to become involved (e.g., to discuss their own preferences in dance and music with their children, to help them choose tapes or records, and to take their chidren to musical events in the community);
- where appropriate, plan opportunities for singing in which hand signing is taught to students and their non-handicapped peers.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:

- adapt instruments for students as required;
- consult with music specialists as required;
- expose students to a wide range of musical and dance styles (e.g., popular, classical, folk, jazz, electronic);
- strive to maximize student participation in special music events in the school (e.g., Christmas concerts, special assemblies, choir groups);
- use students' particular interests and strengths to increase their involvement in the music program;
- emphasize popular music in order to heighten enthusiasm and motivation;
- provide additional opportunities for those students who display a particular talent or ability in dance or singing;
- help students develop leisure skills related to music (e.g., operating a tape or record player, selecting records or tapes, reading music magazines);
- teach older students about music in their environment (e.g., where singers, dancers, groups, and ensembles perform and how to obtain entry to such events);
- evaluate the music program continually, paying particular attention to students' responses;
- when evaluating students' achievements, take into account the enjoyment that students experience as well as their growth in appreciation of musical activities.

Resources

Ontario. Ministry of Education. *The Formative Years: Provincial Curriculum Policy for the Primary and Junior Divisions of the Public and Separate Schools of Ontario*. Toronto: Ministry of Education, Ontario, 1975.

_____. *Music in Action*. Curriculum Ideas for Teachers. Toronto: Ministry of Education, Ontario, 1978.

_____. *Music Is Special, Children Are Special*. Curriculum Ideas for Teachers. Toronto: Ministry of Education, Ontario, 1981.

_____. *Music, Senior Division*. Curriculum Ideas for Teachers. Toronto: Ministry of Education, Ontario, 1983.

Case Study – Elementary Level

Student Profile Six-year-old Claude is just learning to identify with his peers at school. His interactions with others have been limited, and he has had little exposure to non-disabled peers. His response to his name is inconsistent, and his teachers note that he avoids eye contact. In spite of his poor balance, he is able to stand for short periods. He is not yet able to walk. His eye-hand co-ordination skills are beginning to improve.

Learning Environment Claude is in a special education class in a regular school.

Expected Learning Outcomes Claude is expected to:

- develop a pleasurable leisure activity from his participation in the music program;
- become acquainted with his peers (a special effort will be made to encourage regular interaction with one or two students).

Student Program Claude is being provided with opportunities to:
- improve his ability and desire to respond to sounds in his environment while he follows the activities of his peers;
- respond to music through body movement and the use of musical instruments as he observes and imitates other children;
- experience the rhythm of music as he sways to the beat and claps along with songs;
- develop an appreciation of the dynamics of music by learning to identify loud and soft sounds;
- improve his ability to manipulate objects as he experiments with musical instruments;
- learn to respond consistently to his name when it is sung;
- increase the length of time he can stand up by experimenting with table-top games and electronic instruments;
- interact more often with his peers as they assist him in the music activities and routines (e.g., joining the circle, accepting a musical instrument when it is handed to him);
- improve his ability and desire to take turns in small-group activities;
- develop body awareness through songs with actions that review body parts;
- improve his balance as he learns to "move" to music;
- develop a sense of the kind of music he prefers from exposure to a variety of musical styles;
- increase his awareness of letters and numerals by listening to alphabet and number songs regularly.

Case Study – Secondary Level

Student Profile Diane, a fifteen-year-old with Down syndrome, is shy and reluctant to initiate conversations. She finds it difficult to articulate clearly and speaks in short sentences. She is learning to follow simple directions, has acquired basic word-recognition skills, understands sound-symbol relationships, and is learning to read short passages. She is being encouraged to keep herself well groomed and to decrease inappropriate behaviours (e.g., rocking, murmuring to herself, covering her eyes).

Learning Environment Diane is in a special education class in a regular secondary school. She is integrated for music and physical education.

Expected Learning Outcomes Diane is expected to:
- improve her singing, sense of rhythm, co-ordination, and movement skills;
- increase her self-confidence as she participates in enjoyable activities;
- choose musical activities during her leisure time.

Student Program Diane is being provided with opportunities to:
- attend special music and dance events in the school with her friends;
- improve her behaviour and personal grooming as a result of the influence of peers;
- improve her speech by participating in songs and chants;
- improve her co-ordination and self-confidence through dance and movement activities;
- develop her independence by learning to get to her music class on time and with the necessary equipment;
- use sounds in creative ways by playing instruments and participating in rhythm activities;
- participate in dance and movement activities;
- appreciate a variety of kinds of music;
- improve her ability to follow directions by following the instructions of the music teacher and her peers;
- increase her repertoire of musical leisure activities;
- develop an interest in popular music as a result of increased exposure to her peers and their activities;
- learn to operate a tape player and radio;
- learn to identify a favourite radio station and to locate the station on the dial;
- identify music that she prefers and learn the names of singers and performers;
- learn to use the library to borrow records and tapes;
- accompany her friends to a record store and purchase records or tapes;
- become aware of special musical events in the community.

PHYSICAL EDUCATION

Overview

The physical education program is an important part of the total school program and contributes to students' social, emotional, and intellectual, as well as physical, development. It provides students with knowledge, skills, and positive attitudes and behaviours that will contribute to a healthy lifestyle.

Students need to be provided with opportunities to interact socially through the medium of physical activity. They can use movement as a means of communication and as a medium in which to express themselves creatively. Physical play promotes the development of motor skills, provides students with a measure of autonomy, allows them to grow socially, provides them with language practice, and stimulates imaginative and creative impulses.

Students should have opportunities to participate in a wide range of physical and recreational activities that promote fitness, fun, success, and interaction with others. Through these experiences they will:

- develop positive attitudes towards personal hygiene, safety, nutrition, and active lifestyles;
- grow physically, intellectually, and emotionally;
- acquire the ability to participate in integrated learning environments;
- acquire the ability to take advantage of recreational opportunities offered in and by the community;
- develop a variety of recreational and athletic abilities that will help them use their leisure time productively.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- identify specific physical and recreational needs and abilities through the assessment process;
- identify the need for specialized or adapted programming;
- develop a variety of age-appropriate learning environments and opportunities both inside and outside the school;
- set attainable goals for students, based on individual capabilities.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:

- develop activities that maintain a high level of physical fitness;
- promote creative self-expression through such means as dance, games, and team activities;
- develop desirable social skills and attitudes in integrated settings;
- use a variety of modes of instruction, such as tutoring, modelling, mentoring, and team teaching;
- encourage general enjoyment of physical activities, placing special emphasis on skill development in selected leisure activities, such as golf, tennis, curling, volleyball, badminton, bowling, swimming, and cross-country skiing;
- provide students with appropriate opportunities to learn and apply specific skills with non-disabled peers;
- increase students' responsibility for making decisions and accepting the consequences of them and for building rewarding relationships with adults and peers;
- enhance students' psychomotor development by encouraging them to participate regularly in a balanced program of activities designed to help them overcome their awkwardness and lack of balance;
- adapt the physical and recreational program so that it can be provided in an integrated setting;
- use constructively such evaluation tools as checklists, task-analysis outlines, staff observations, individual program plans, and anecdotal reports.

Resource

Irmer, Larry D., et al. *Physical Education Opportunity Program for Exceptional Learners (PEOPEL): An Administrative Guide for Secondary Schools.* 3rd ed. Washington, D.C.: National Diffusion Network, 1979. Available from the Ontario Association for Community Living and the Niagara South Board of Education.

Case Study – Elementary Level

Student Profile Ray is a thirteen-year-old student who has multiple disabilities. He is non-verbal and non-ambulatory (paraplegic). He can communicate by means of a picture board and is very aware of people and events around him. He cannot yet operate his electric wheelchair independently.

Learning Environment Ray has been placed in a special school in the local community.

Expected Learning Outcomes Ray is expected to:
- increase his daily use of his expressive communication system (picture board);
- practise manipulating his electric wheelchair;
- enjoy physical activities that promote the profitable use of leisure time.

Student Program Ray is being provided with opportunities to:
- participate in group activities in order to develop feelings of self-worth and success;
- incorporate his physiotherapy exercises into the daily fitness program (with the aid of the physiotherapist);
- participate in an aquatics program in order to improve his gross-motor skills;
- develop wheelchair mobility, using lines on the gym floor, obstacle courses, and dance activities;
- develop a set of symbols for his picture board that relate specifically to activities in the physical education class;
- learn the rules and adapted skills required to play leisure games (e.g., lawn darts, shuffleboard, bowling).

Case Study – Secondary Level

Student Profile Nineteen-year-old Paul suffered neurological damage in a car accident when he was fourteen. He has a moderate disability and good language skills. He exhibits aggressive and inappropriate behaviours with his peers and has difficulty with many fine- and gross-motor activities. He has the potential to live independently in the community.

Learning Environment Paul has been placed in a special education class in a secondary school and has access to a variety of peer tutoring programs, including physical education.

Expected Learning Outcomes Paul is expected to:
- participate in a variety of recreational and fitness activities through an adapted physical education program;
- become acquainted with recreational opportunities offered in and by the community both during and after school hours;
- develop age-appropriate behaviours and skills through the example of peer-tutor role models.

Student Program Paul is being provided with opportunities to:
- develop appropriate behaviours for group situations through one-to-one peer tutoring;
- work with staff and his peer tutor in a behaviour-management program to learn to control his aggressive behaviour;
- develop fundamental motor skills (throwing, striking, catching, kicking) without fear of injury (e.g., through the use of nerf balls);
- participate in class, intramural, and community (e.g., YMCA, local health/recreation club) activities;
- learn ways to express his frustrations without using profane language;
- develop adapted recreational skills as outlined in the PEOPEL program (see "Resource", p. 47).

SCIENCE

Overview

The science program should be relevant to students and provide them with the attitudes, skills, and knowledge they require to participate in a changing world. It should also provide them with opportunities to explore, discuss, and describe their environment. Students should be encouraged to ask questions, conduct investigations, make decisions, evaluate, and make generalizations.

In a successful science program, the concepts developed are related to the real world, and their societal implications are discussed and made clear. Whether the students continue to study science or not, they will be members of a society in which the roles of science and technology are ever widening. The skills, attitudes, and knowledge developed in a science program can serve as preparation for future decision making.

Science can also improve students' quality of life by developing their awareness and appreciation of the beauty and value of their natural environment. This improvement can involve enjoying plants and animals in their homes or participating in such leisure activities as nature walks, excursions to conservation areas, and visits to natural-science museums.

The study of science provides students with excellent opportunities to experience their world first-hand; to increase their sense of responsibility for the environment (e.g., their concern for animal protection, plant care, and energy efficiency); and to develop the cognitive skills of observing, classifying, ordering, measuring, communicating, and solving real problems. Exposure to many scientific topics will also increase students' awareness of career opportunities that might otherwise escape their notice.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:

- examine the regular curriculum, focusing on general topics of study, with an eye for integration opportunities;
- make parents aware of the general goals in science, to ensure reinforcement at home.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:

- ensure that lesson content is clear and the materials used, appropriate;
- ensure that the activities for a particular science unit in some way address problems that have been raised in class;
- take care that students understand the language that is used to discuss scientific explorations;
- start scientific explorations with students' spontaneous questions regarding phenomena in their natural environment;
- provide opportunities for related language and mathematics activities, as consistent with a holistic approach;
- as part of the evaluation process, assess students' ability to question and to solve problems in meaningful and practical situations;
- make use of the many areas of science that relate to independent living (e.g., weather, science in the home, safety, care of the environment, efficient use of energy, plant and animal care);
- model safe practices and communicate safety expectations;
- model strategies of exploration and investigation for students;
- instruct students in the proper care and handling of living things;
- in science activities, use the strategies of partial participation, co-operative learning, and peer tutoring, and modify evaluation procedures.

Resources

Ontario. Ministry of Education. *Science in Primary and Junior Education: A Statement of Direction*. Toronto: Ministry of Education, Ontario, 1986.

_____. *Science, Intermediate and Senior Divisions, Part 1: Program Outline and Policy*. Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1987.

_____. *Science Is Happening Here: A Policy Statement for Science in the Primary and Junior Divisions*. Toronto: Ministry of Education, Ontario, 1988.

Case Study – Elementary Level

Student Profile Seven-year-old Kristi is autistic. She is learning to express herself, using gestures and a repertoire of five signs (for cookie, ball, camera, cake, friend); she uses the signs consistently. She is fairly independent in meeting her personal needs (washing, dressing, eating). However, although quite mobile, Kristi requires supervision, as she is unaware of dangers and is not always focused or purposeful in her wanderings. She is inconsistent in her response to instruction, sometimes attending well and at other times seemingly unaware of expectations. She can hold a pencil and a crayon and can colour in a defined area, but she requires hand-over-hand assistance for cutting activities. She enjoys painting and play-dough activities.

Learning Environment Kristi attends a special class of six students in a regular school. She is integrated with other students during recess and lunch periods and for assemblies and special activities. She is also integrated into a Grade 1 class for music and student-directed activities.

Expected Learning Outcomes Kristi is expected to:
- participate in a new Primary Division science program;
- become better known to her Grade 1 peers;
- develop skills in observing and classifying.

Student Program Kristi is being provided with opportunities to:
- participate in small-group instruction, with a group of peers who can provide appropriate models, to increase her ability to attend to a task;
- increase her repertoire of single words and signs;
- develop the concept of classification (e.g., living versus non-living things);
- participate in science activities and listen to students' discussions in the Primary class;
- improve her fine-motor skills through participation in hands-on experiences and extensive use of manipulative materials;
- produce a mural on the theme "Animals We See in the Neighbourhood" with a small group of students (her participation can include colouring in a defined area, placing cutouts on the background, or sponge painting to cover the background);
- increase her independence in finding various areas of the school by learning to walk from the special class to the Grade 1 class on her own;
- increase her awareness of her natural environment by joining the Grade 1 class on a nature walk;
- develop friendships, through her involvement in the science program, that will carry over into other areas of school life;
- increase her ability to generalize by having concepts reinforced at home (e.g., parents can point out animals that have been discussed at school and can remind her of their names or signs).

Case Study – Secondary Level

Student Profile Eighteen-year-old Darren is autistic and functionally blind. He requires supervision and direction in his personal-care routines. He is not yet independently mobile within the school but is learning to find specific rooms and areas with the aid of a peer. He has no spoken language and communicates by reaching and searching for things in his immediate vicinity. He adapts slowly to change and works best in a familiar, predictable environment. He has made friends at school, and they spend time with him regularly.

Learning Environment Darren attends a regular secondary school near his home. A special education resource teacher is responsible for his program, and a facilitator is available to help with its implementation. Darren participates in special events and assemblies and is well known in the school. A small group of students work with him regularly.

Expected Learning Outcomes Darren is expected to:
- increase his repertoire of meaningful activities in science-related areas;
- increase his participation in the life of his household as a result of learning to care for plants and animals;
- increase his ability to engage in a chosen activity independently.

Student Program Darren is being provided with opportunities to:
- develop skills in plant and animal care;
- participate, with his facilitator, in a work-experience program (in a pet store in a mall near his home) in order to learn how to handle and feed animals;
- water plants regularly, with the assistance of a peer, in the library and resource room;
- increase his ability to use certain tools and equipment in caring for plants and animals.

VISUAL ARTS

Overview

In the visual arts program, students explore, observe, and manipulate a variety of materials and perceive similarities and differences in such attributes as texture, pattern, colour, line, and shape. They also express their feelings and thoughts creatively through such activities as modelling, painting, constructing, and drawing. Frequently, visual arts provide modes of self-expression to those whose verbal skills are relatively undeveloped.

Arts and crafts activities can be pleasurable and creative for all students. As students progress through school, their skills are refined, and they develop confidence and a positive self-image. They also develop both affectively and cognitively as they share their views about art with their peers and critique the work of other artists.

Some students have a talent for visual arts that matches or exceeds that of their peers. These students approach artistic concepts, such as balance, design, and colour, with directness and clarity.

Students should be provided with opportunities to participate in a wide variety of arts and crafts activities and to manipulate varied media. Such activities are interesting and pleasurable ways of developing sensory awareness, spatial understanding, body awareness, observational skills, perceptual-motor control, and fine-motor skills.

Visual arts also provide an excellent context for social learning. Group or class art projects such as murals, models, and displays can provide natural opportunities for social integration.

The Planning Cycle

Assessment and Development

In the first two phases of the planning cycle, educators need to:
- identify areas that are of interest to students (e.g., preferred subjects to paint, preferred media) and that are appropriate to their ages;
- assess students' physical, cognitive, and artistic strengths;
- determine whether adult or peer support will be necessary;
- identify school or community settings in which art activities will take place;
- identify any safety concerns, and plan strategies to prevent injury;
- plan projects whose products students can use (e.g., fabric painting on T-shirts, leather appliqué, bead jewellery, ceramics);
- plan arts or crafts activities that students will be able to do as adults for leisure or work.

Implementation and Evaluation

In the last two phases of the planning cycle, educators need to:
- modify the equipment used in art classes as required (e.g., provide larger paintbrushes and stabilized paint containers for students who are physically disabled);
- use household objects (e.g., feather dusters, paint rollers, deodorant rollers, string) as art tools;
- have students do relaxation exercises with their hands and arms before beginning art activities (students who are spastic or who are unable to relax voluntarily may need to be massaged);
- play music during both the relaxation period and the art activities;
- use subdued lighting or table lamps as an alternative to fluorescent lighting;
- use bright or shiny art materials (e.g., foil, glitter) for students with severe sensory deficits;
- experiment with computerized art programs, photography, and video projects.

Resources

Ontario. Ministry of Education. *Visual Arts, Intermediate and Senior Divisions.* Curriculum Guideline. Toronto: Ministry of Education, Ontario, 1986.

_____. *Visual Arts, Primary and Junior Divisions.* Curriculum Ideas for Teachers. Toronto: Ministry of Education, Ontario, 1985.

Case Study – Elementary Level

Student Profile Seven-year-old Sharma has multiple disabilities. She is quadriplegic and has very little control of her limbs. She can direct her fist to a large surface (e.g., a paper attached to her wheelchair tray) but requires assistance for toileting, eating, and most personal-care needs. Sharma communicates by smiling, crying, and making brief eye contact. She likes to be held and enjoys sensory contact of any kind. She is attracted to bright colours, lights, and pleasant sounds. She can track a moving object with her eyes.

Learning Environment Sharma attends a special school. Her program emphasizes the development of motor skills, self-care skills, and sensory awareness. She requires daily physiotherapy, which is carried out by her teacher or the educational assistant, with recommendations from the school's physiotherapist. She requires adapted equipment to enable her to manipulate materials more independently.

Expected Learning Outcomes Sharma is expected to:
- manipulate a variety of materials (e.g., clay, paint, fabric) in art activities in order to acquire tactile information about her environment;
- develop sensory awareness and communicative and fine-motor skills through the exploration of art media.

Student Program Sharma is being provided with opportunities to:
- develop communication skills by eye pointing or smiling to indicate her choices (e.g., of art activities, paint colours);
- develop concepts of colour, texture, and space through hand-over-hand activities combined with appropriate vocabulary;
- refine such social skills as sharing the materials used in art class and co-operating in joint projects such as murals;
- improve her targeting skills through activities with paint media (e.g., using her fist, a deodorant roller, brayers, modified paint rollers, industrial spray cans);
- improve her grasp and release through sponge painting, hole punching, and manipulation of play dough and clay;
- develop sensory awareness through multisensory experiences with a variety of art media (e.g., paper, sandpaper, carpeting, fabric, leather, plastic, wood, tin foil) varying in colour, texture, and shape;
- develop body awareness by using various parts of the body (foot, thumb, elbow) to paint or by making large sculptures of people by using the fist or feet to stuff paper into old clothing;
- improve midline targeting by block printing with flat hands.

Case Study – Secondary Level

Student Profile Sarah is an attractive seventeen-year-old. She has a good command of spoken language but is extremely shy and speaks in a low voice, with her head down. She adds and subtracts to 20 and is beginning to learn multiplication. She is able to read simply written instructions. She has excellent fine-motor skills and is very artistic. She is learning to travel to school on her own and is able to make simple purchases in the community.

Learning Environment Sarah attends a special secondary school class and is integrated in visual arts with a peer buddy. She also participates in community learning through visits to art galleries, fashion shows, and art stores.

Expected Learning Outcomes Sarah is expected to:
- develop drawing and painting skills through an integrated arts program;
- improve her self-confidence and social skills through participation in a fashion-design program;
- become aware of art-related vocational opportunities.

Student Program Sarah is being provided with opportunities to:
- improve spontaneous communication with her peers during art activities by looking at the person she is talking to and speaking more clearly;
- increase her vocabulary related to colours, design, and art and develop the communication skills needed to purchase articles in art stores or to visit art galleries;
- read simple instructions for art or craft activities, simple books about famous artists, and newspaper stories about fashion;
- write letters to order art supplies and make shopping lists of needed materials;
- design posters for fashion shows and other school events and experiment with the use of Letraset or Geosign to spell words in signs and posters (and thereby practise both layout and spelling);
- refine her fine-motor skills by using a variety of art media and techniques (e.g., weaving, silk-screening, working leather, making copper jewellery, floral arranging);
- improve her awareness of shape, size, and design by using computerized design programs and by using the photocopier for reduction and enlargement;
- practise handling money by purchasing needed supplies in the community.